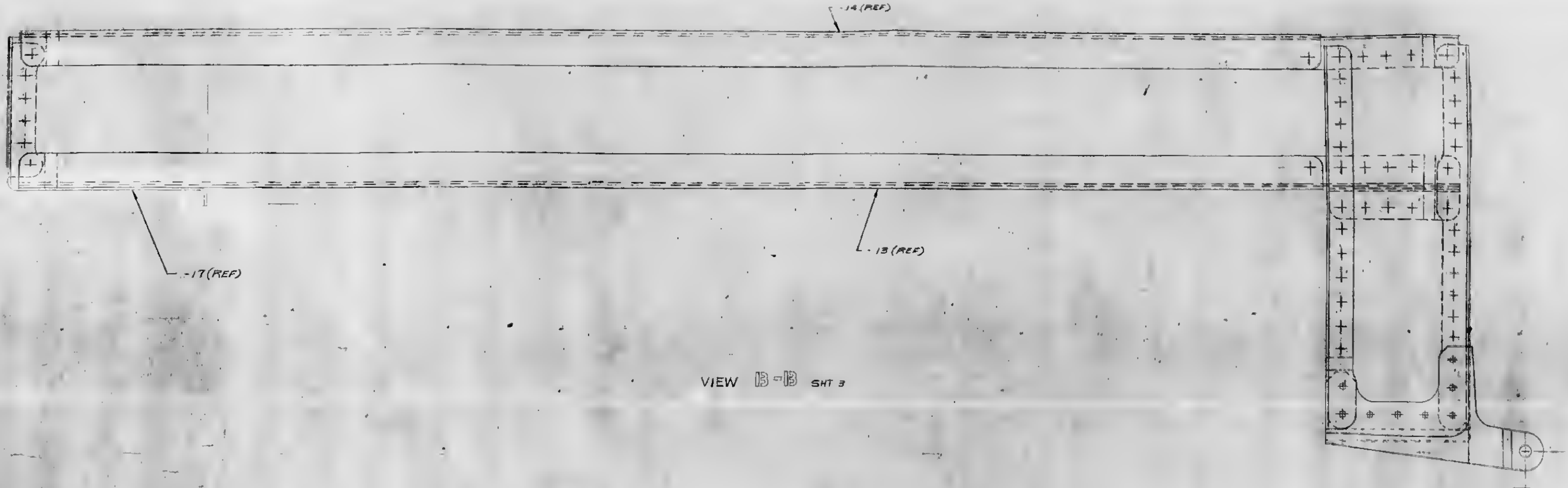
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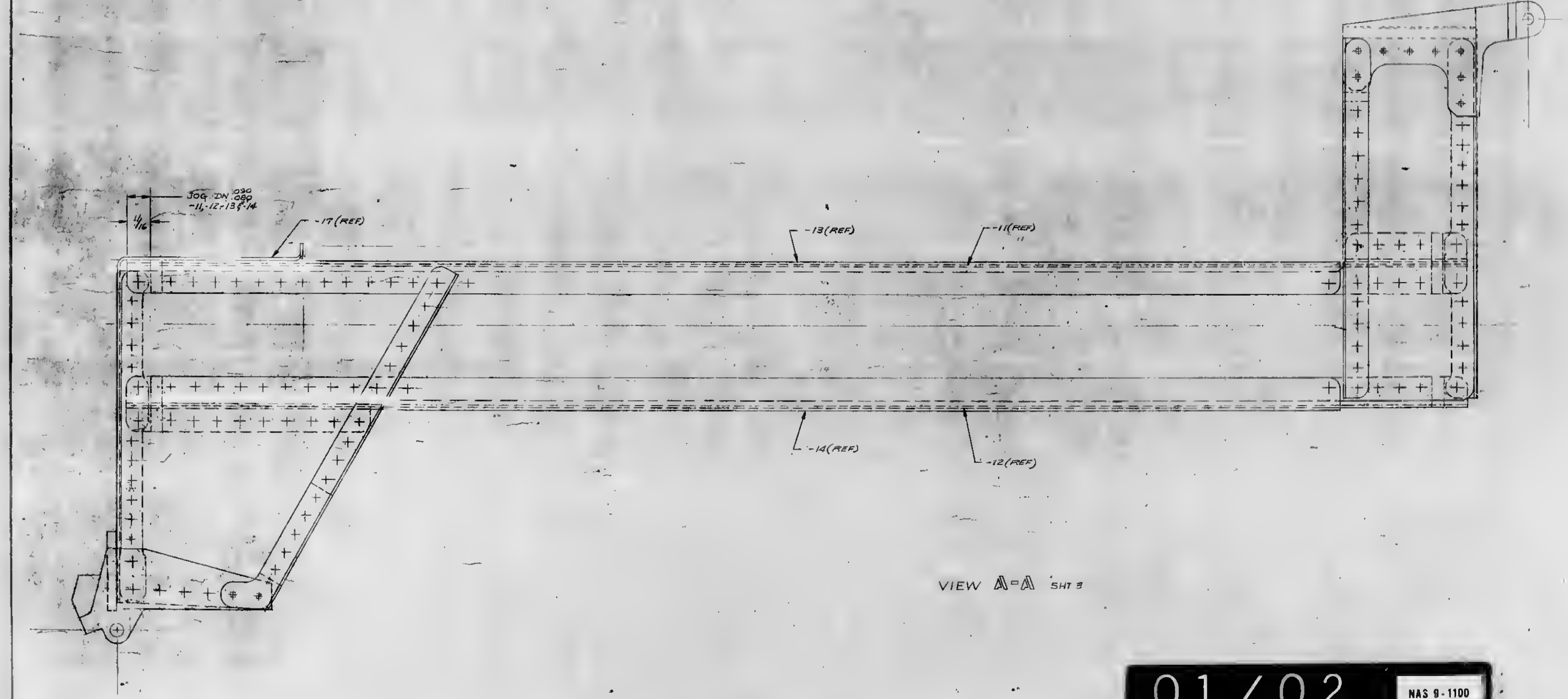
-17 (REF)
-13 (REF)

VIEW B-B SHT 3


JOG DN .030 .080
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1/16
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-11 (REF)
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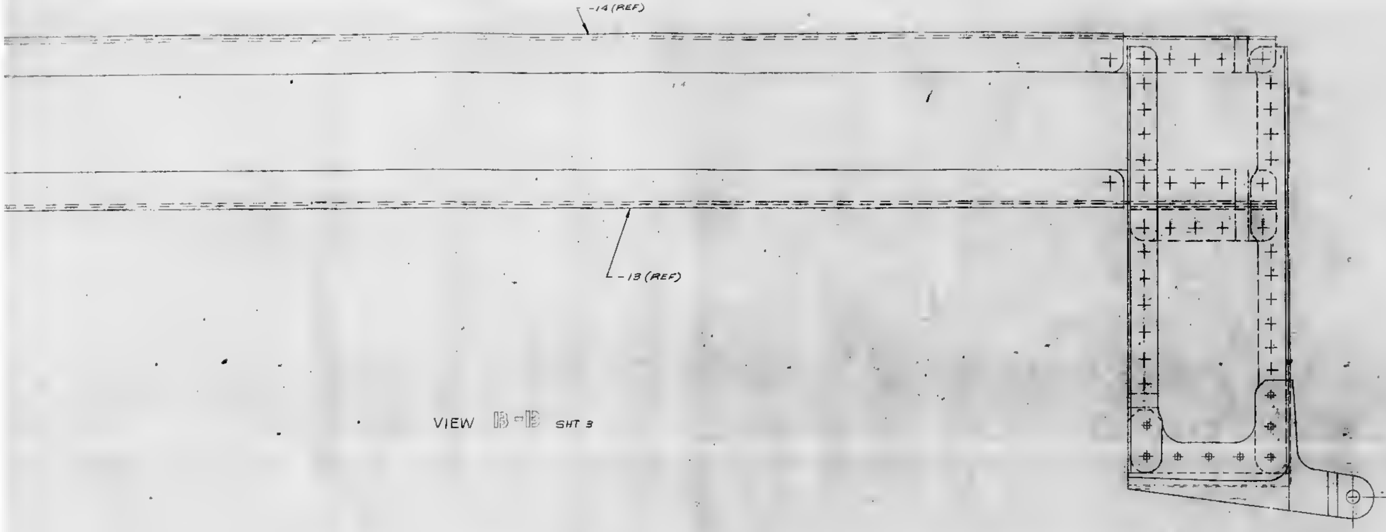
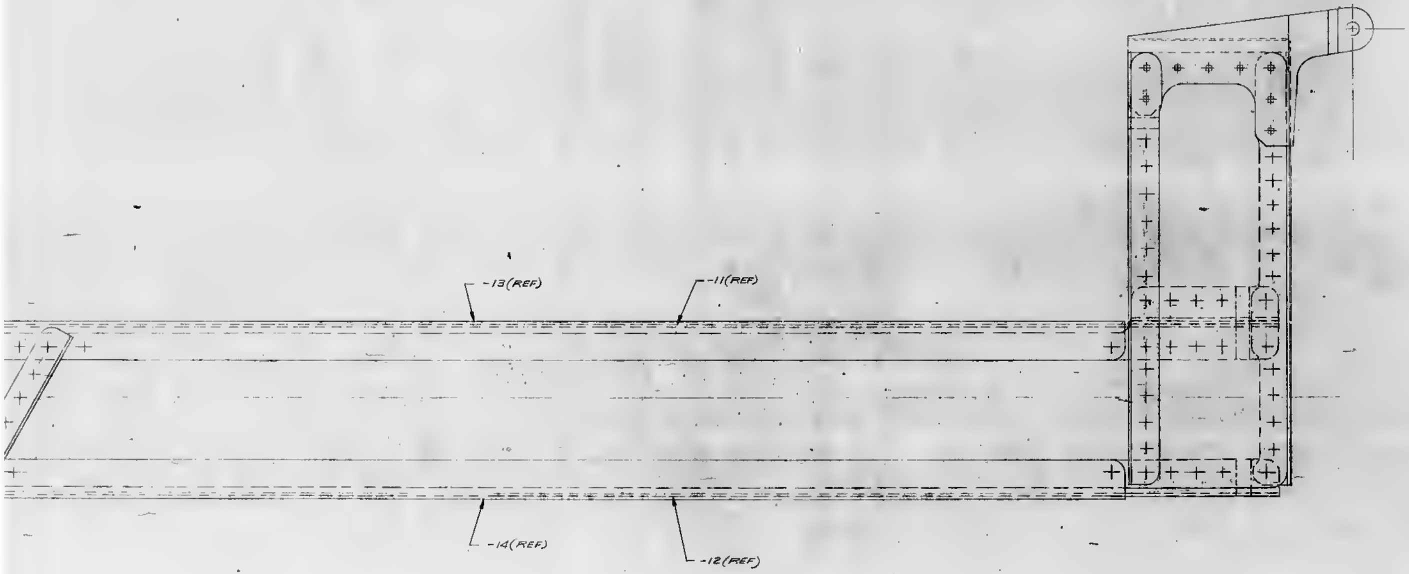
VIEW A-A SHT 3



VIEW B-B SHT 3



VIEW A-A SHT 3

MANUFACTURING OPERATIONS UNLESS OTHERWISE SPECIFIED NOTES CHECKED ✓ APPLY TO THIS DWG.	
PART NUMBER AND ALL OTHER MARKINGS IN REGION MARKED ▭ USE BOTH SIDES IF NECESSARY.	
FILLET AND INSIDE CORNER RADII TOLERANCES .016R TO .062R ± .010 .063R TO .250R ± .015 OVER .250R ± .030	
DEPTH SHOWN FOR TAPPED HOLES IS FULL THDS. 2-3 IMP THDS. BEYOND PERMISSIBLE.	
EXTERNAL THREAD LENGTH SHOWN INCLUDES 2 IMPERFECT THREADS MAX.	
DO NOT CADMIUM PLATE & PAINT HOLES ON SURFACES MARKED WITH DOUBLE ASTERISK.	
MISMATCH STEP OF ± .005 PERMISSIBLE DUE TO CHANGE OF CUTTERS AT INSIDE INTERSECTING SURFACES.	
DIAMETERS MARKED MUST BE CONCENTRIC WITHIN FULL INDICATOR READING	
HOLES MUST BE KEPT FREE OF CHROME PLATING SOLUTION.	
ALL DIMENSIONS SHOWN TO BE MET AFTER CADMIUM PLATING. THICKNESS OF PLATE .0003 MIN TO .0005 MAX. MIN THICKNESS TO BE .0002 ON THREADED AREAS. NO ALLOWANCE FOR PLATING IN HOLES	
125 √ SURFACE ROUGHNESS INCLUDING REAMED HOLES PER MIL-STD-10	
250 √ FOR ALL DRILLED HOLES	
REMOVE ALL BURRS BREAK ALL EDGES .015-.031	
INSPECTION INFORMATION MINIMUM PERMISSIBLE AVERAGE EDGE DISTANCE MARKED IS	
SYMBOL √ DENOTES SURFACE TO BE MACHINED	
UNLESS OTHERWISE SPECIFIED TOLERANCE ON FLANGES IS ± 1/32	
LENGTHS OF AN, NAS & MS AL ALY RIVETS SHORTER THAN 1 INCH ARE NOT SPECIFIED.	
TOLERANCE ON LOFTED DELINEATIONS IS	

DWG SIZE 34 X

LDW280-18445

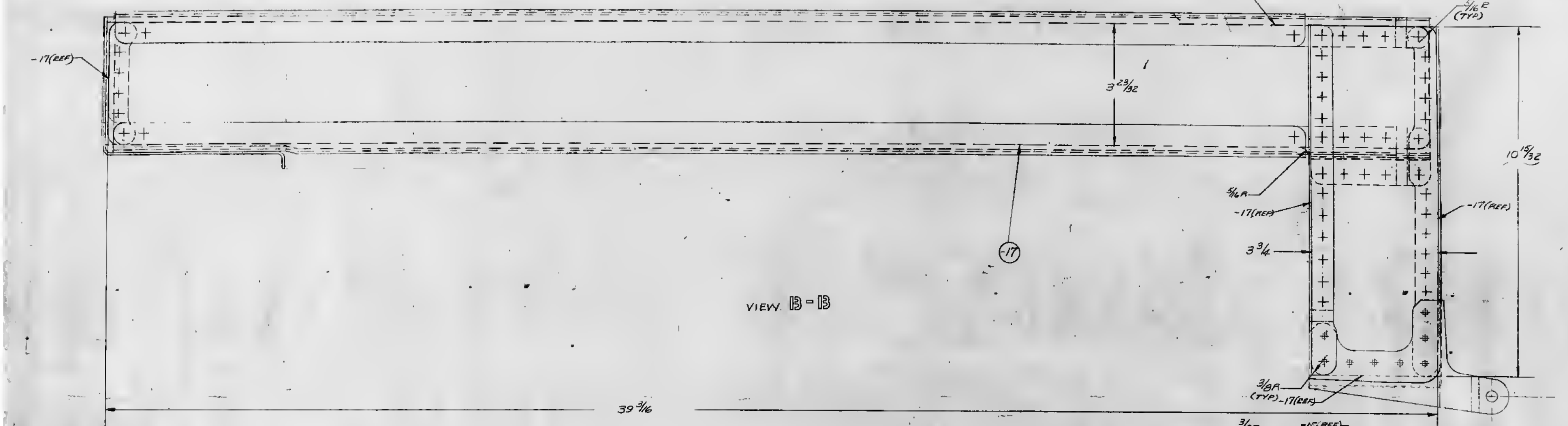
02/02 NAS 9-1100

LDW280-18445

LAYOUT RELEASE ~~TO~~ MAY BE REDRAWN
ON PRODUCTION FORMAT

	GRUMMAN AIRCRAFT ENGRG CORP., BETHPAGE, L. I., NEW YORK		
	SIZE	CODE IDENT NO	
LM	J	26512	LDW280-18445
MODEL OR END ITEM	SCALE FULL		SHEET 4.00

THIS IS AN ORIGINAL DRAWING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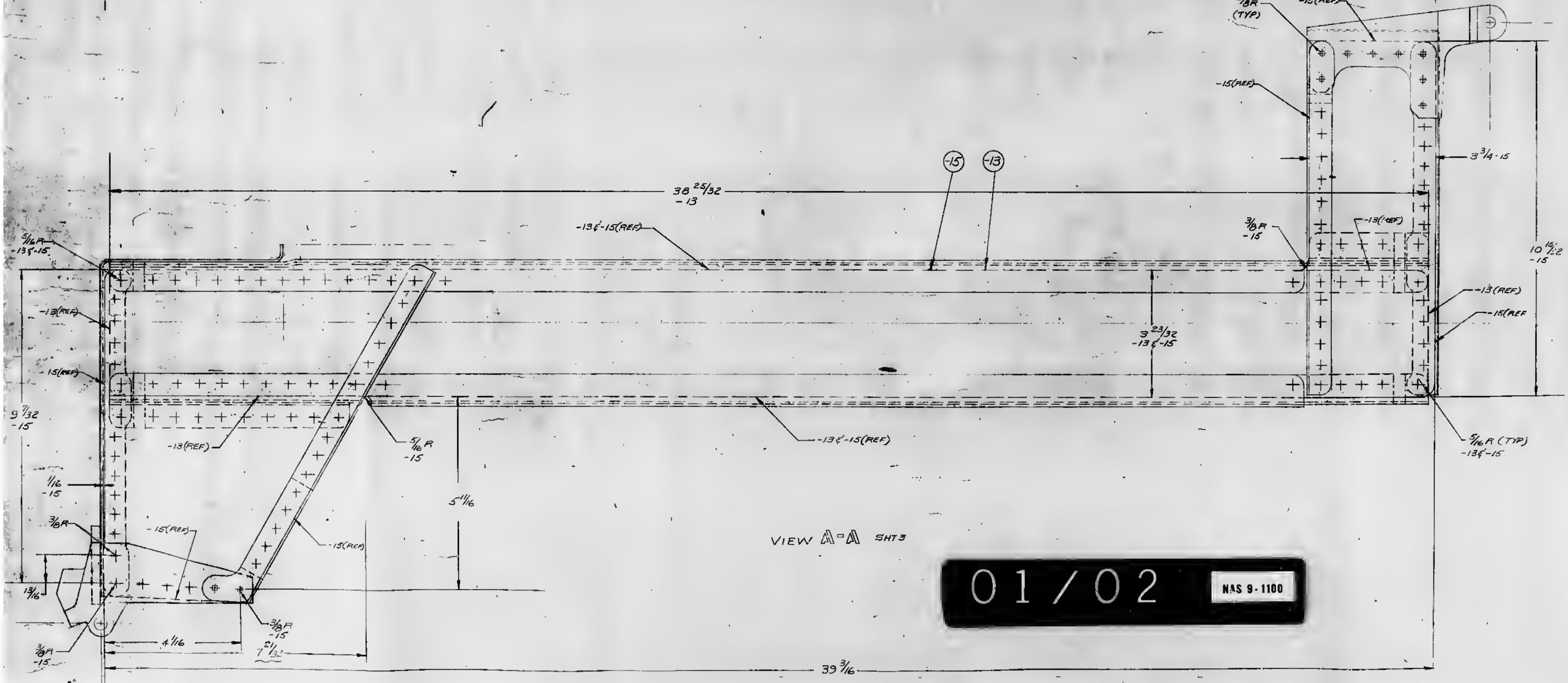
5/16 R (TYP)
-17(REF)
3 23/32
10 15/32
5/16 R
-17(REF)
-17(REF)
3 3/4
-17
VIEW B-B
3/8 R (TYP)
-17(REF)
39 3/16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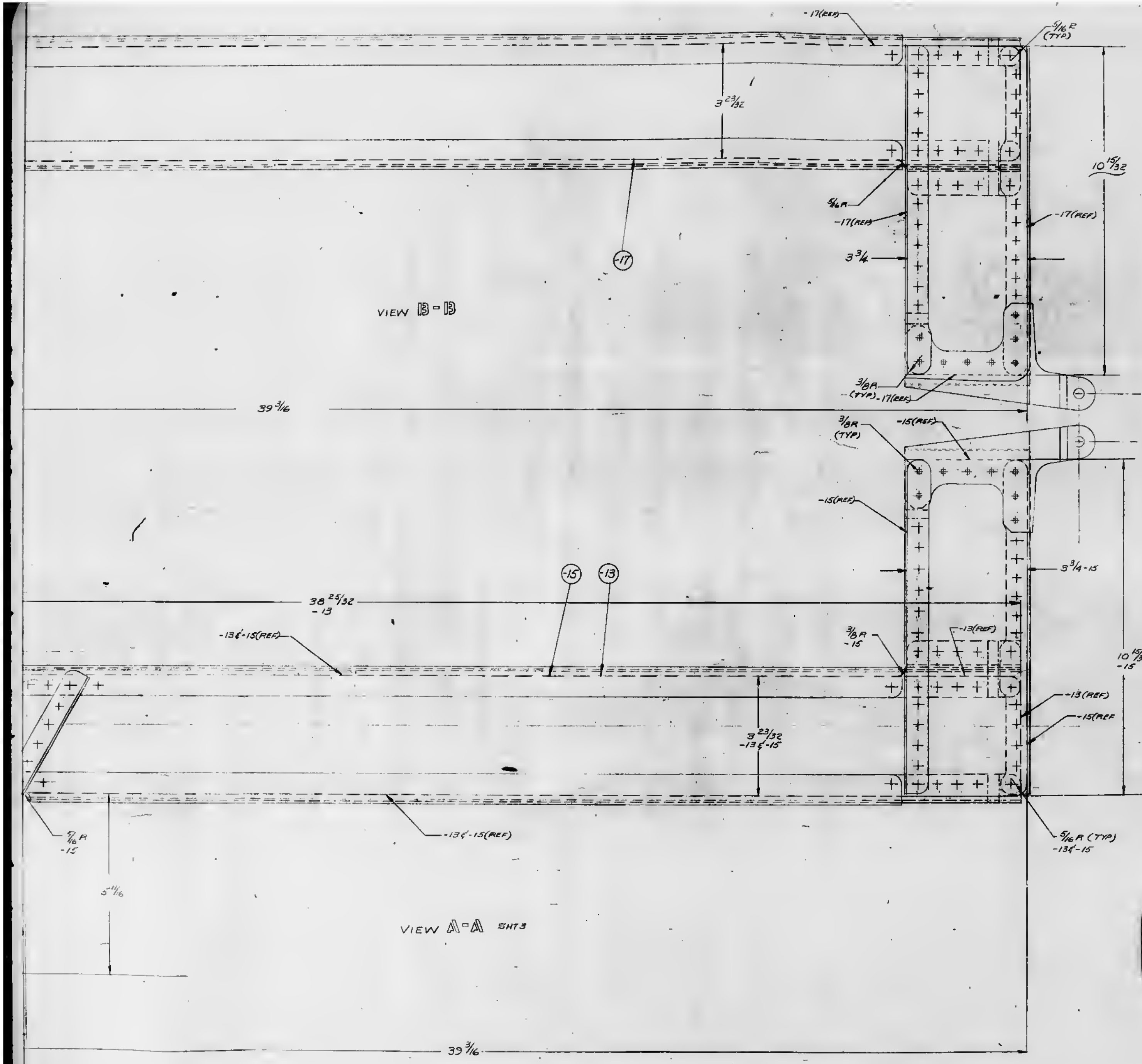
-15(REF)
-15(REF)
3 3/4-15
-15
-13
38 25/32
-13
-13 & -15(REF)
3/8 R
-15
-13(REF)
10 15/32
-15
5/16 R
-13 & -15
-13(REF)
-15(REF)
-13(REF)
-15(REF)
3 23/32
-13 & -15
9 7/32
-15
-13(REF)
5/16 R
-15
-13 & -15(REF)
5/16 R (TYP)
-13 & -15
1/16
-15
5 11/16
3/8 R
-15(REF)
-15(REF)
VIEW A-A SHT3
13/16
3/8 R
-15
3/8 R
-15
4 1/16
7 21/32
39 3/16

01/02

NAS 9-1100


-17(REF)
5/16 R (TYP)
3 23/32
10 15/32
5/16 R
-17(REF)
-17(REF)
3 3/4
-17
VIEW B-B
3/8 R (TYP)
-17(REF)
39 3/16
3/8 R (TYP)
-15(REF)
-15(REF)
3 3/4 -15
-15
-13
38 25/32 -13
-13 & -15(REF)
-13(REF)
3/8 R -15
10 15/32 -15
-13(REF)
-15(REF
3 23/32 -13 & -15
5/16 R -15
-13 & -15(REF)
5/16 R (TYP) -13 & -15
5 11/16
VIEW A-A SHT 3
39 3/16

MANUFACTURING OPERATIONS
UNLESS OTHERWISE SPECIFIED
NOTES CHECKED √ APPLY TO THIS DWG.

PART NUMBER
AND ALL OTHER MARKINGS
IN REGION MARKED ▭
USE BOTH SIDES IF NECESSARY.

FILLET AND INSIDE CORNER
RADII TOLERANCES
.0100 TO .062R ± .010
.063R TO .250R ± .015
OVER .250R ± .030

DEPTH SHOWN FOR TAPPED
HOLES IS FULL THDS. 2-3 IMP THDS.
BEYOND PERMISSIBLE.

EXTERNAL THREAD LENGTH
SHOWN INCLUDES
2 IMPERFECT THREADS MAX.

DO NOT CADMIUM PLATE & PAINT
HOLES OR SURFACES MARKED
WITH DOUBLE ASTERISK.

MISMATCH STEP OF ± .005
PERMISSIBLE DUE TO CHANGE
OF CUTTERS AT INSIDE
INTERSECTING SURFACES.

DIAMETERS MARKED
MUST BE CONCENTRIC WITHIN
FULL INDICATOR
READING

[illegible] MUST BE KEPT FREE OF
[illegible] PLATING SOLUTION.

ALL DIMENSIONS SHOWN TO BE MET
AFTER CADMIUM PLATING.
THICKNESS OF PLATE .000 MIN.
TO .0005 MAX. MIN. THICKNESS TO
BE .0002 ON THREADED AREAS.
NO ALLOWANCE FOR PLATING OF
HOLES.

125 SURFACE ROUGHNESS
INCLUDING REAMED HOLES
PER MIL-STD-10

250 FOR ALL DRILLED HOLES

REMOVE ALL BURRS.
BREAK ALL EDGES .005-.030

INSPECTION INFORMATION
MINIMUM PERMISSIBLE
AVERAGE EDGE DISTANCE
MARKED IS

SYMBOL ∮ DENOTES SURFACE
TO BE MACHINED

UNLESS OTHERWISE SPECIFIED
TOLERANCE ON FLANGES IS ± 1/32

LENGTHS OF AN, NAS & MS AL ALY
RIVETS SHORTER THAN 1 INCH ARE
NOT SPECIFIED.

TOLERANCE ON DOTTED
DELINEATIONS IS

DWG SIZE 34 X

PRINTING INFO ONLY

LDW280-18446

LDW280-18446

02/02

NAS 9-1100

LAYOUT RELEASE TO BE REDRAWN ON
PRODUCTION FORMAT

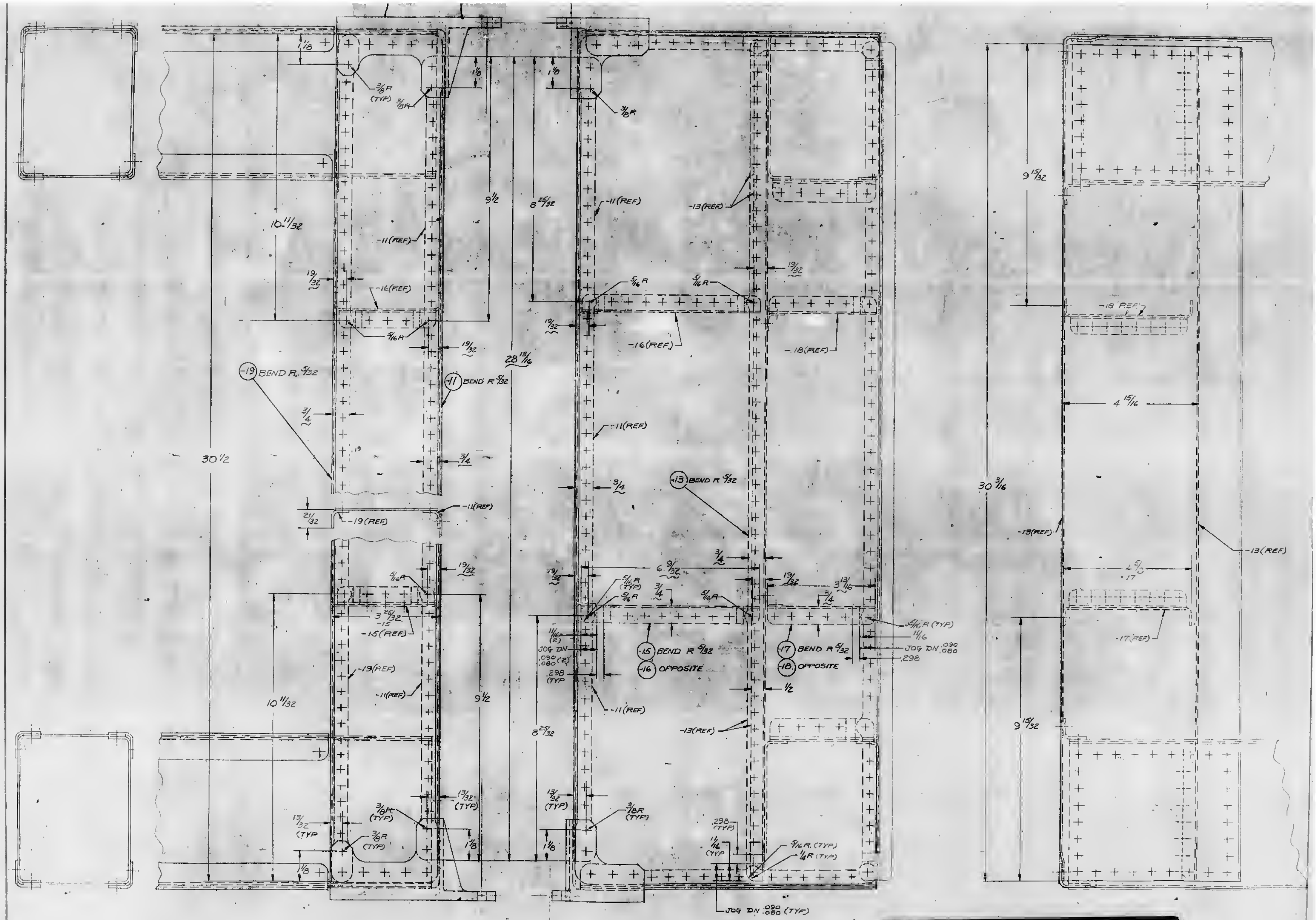
GRUMMAN AIRCRAFT ENGRG CORP., BETHPAGE, L.I., NEW YORK

SIZE	CODE IDENT NO.	
J	26512	LDW280-18446

LM
MODEL OR END ITEM

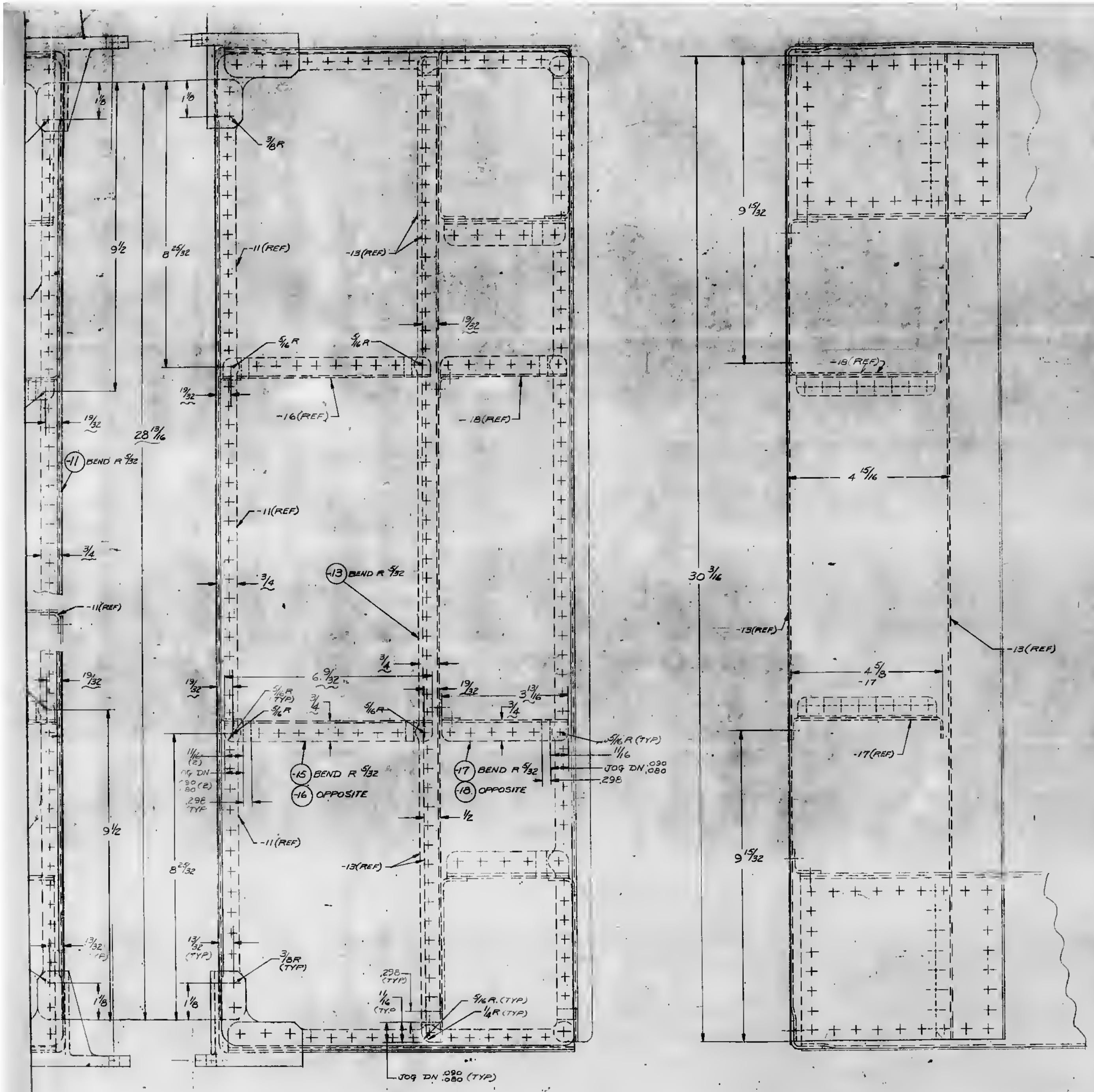
SCALE FULL
SHEET 4.00

THIS IS AN ORIGINAL DRAWING


1 1/8
3/8 R (TYP)
3/8 R
1 1/8
3/8 R
10 11/32
9 1/2
8 25/32
-11 (REF)
-13 (REF)
9 15/32
19/32
-16 (REF)
5/16 R
-18 REF
5/16 R
-16 (REF)
-18 (REF)
28 13/16
-19 BEND R. 5/32
-11 BEND R 5/32
3/4
30 1/2
-11 (REF)
-13 BEND R 5/32
4 15/16
30 3/16
21/32
-19 (REF)
-13 (REF)
4 5/8
-17
6 9/32
3 13/16
3 25/32
-15
-15 (REF)
5/16 R (TYP)
11/16
JOG DN .090 .080
.298
-15 BEND R 5/32
-16 OPPOSITE
-17 BEND R 5/32
-18 OPPOSITE
-17 (REF)
-19 (REF)
1/2
13/32 (TYP)
3/8 R (TYP)
1 1/8
.298 (TYP)
11/16 (TYP)
5/16 R. (TYP)
1/4 R (TYP)
JOG DN .090 .080 (TYP)

01/02

NAS 9-1100


1 1/8
3/8 R
9 1/2
8 25/32
-11 (REF)
-13 (REF)
5/16 R
19/32
-16 (REF)
-18 (REF)
28 13/16
-11 BEND R 5/32
3/4
-13 BEND R 5/32
6 9/32
3 13/16
5/16 R (TYP)
11/16
JOG DN .090 .080
.298
-15 BEND R 5/32
-16 OPPOSITE
-17 BEND R 5/32
-18 OPPOSITE
1/2
13/32 (TYP)
3/8 R (TYP)
5/16 R (TYP)
1/4 R (TYP)
JOG DN .090 .080 (TYP)
9 15/32
30 3/16
-18 (REF)
4 15/16
4 5/8
-17
-17 (REF)

MANUFACTURING OPERATIONS
UNLESS OTHERWISE SPECIFIED
NOTES CHECKED ✓ APPLY TO THIS DWG.

PART NUMBER
AND ALL OTHER MARKINGS
IN REGION MARKED
USE BOTH SIDES IF NECESSARY.

FILLET AND INSIDE CORNER
RADII TOLERANCES
.014R TO .062R ± .010
.063R TO .250R ± .015
OVER .250R ± .030

DEPTH SHOWN FOR TAPPED
HOLES IS FULL THDS. 2-3 IMP THDS.
BEYOND PERMISSIBLE.

EXTERNAL THREAD LENGTH
SHOWN INCLUDES
2 IMPERFECT THREADS MAX.

DO NOT CADMIUM PLATE & PAINT
HOLES OR SURFACES MARKED
WITH DOUBLE ASTERISK.

MISMATCH STEP OF ± .005
PERMISSIBLE DUE TO CHANGE
OF CUTTERS AT INSIDE
INTERSECTING SURFACES.

DIAMETERS MARKED
MUST BE CONCENTRIC WITHIN
FULL INDICATOR
READING

HOLES MUST BE KEPT FREE OF
CHROME PLATING SOLUTION.

ALL DIMENSIONS SHOWN TO BE MET
AFTER CADMIUM PLATING.
THICKNESS OF PLATE .0003 MIN.
TO .0005 MAX. MIN. THICKNESS TO
BE .0002 ON THREADED AREAS.
NO ALLOWANCE FOR PLATING IN
HOLES

125 SURFACE ROUGHNESS
INCLUDING REAMED HOLES
PER MIL-STD-10

250 FOR ALL DRILLED HOLES

REMOVE ALL BURRS.
BREAK ALL EDGES .015-.031

INSPECTION INFORMATION
MINIMUM PERMISSIBLE
AVERAGE EDGE DISTANCE
MARKED IS

SYMBOL ƒ DENOTES SURFACE
TO BE MACHINED

UNLESS OTHERWISE SPECIFIED
TOLERANCE ON FLANGES IS ± 1/32

LENGTHS OF AN, NAS & MS AL ALY
RIVETS SHORTER THAN 1 INCH ARE
NOT SPECIFIED.

TOLERANCE ON LOFTED
DELINEATIONS IS

DWG SIZE 34 X

PRINTING INFO ONLY

NOTES

1. ALL INFORMATION NOT REQUIRED FOR MANUFACTURE LDW280-18447-11,-13,-15,-16,-17,-18 & -19 IS FOR REF. ONLY
2. NO TOOLING HOLES PERMITTED IN PARTS

02/02

NAS 9-1100

LAYOUT RELEASE TO BE REDRAWN
ON PRODUCTION FORMAT

GRUMMAN AIRCRAFT ENGRG CORP., BETHPAGE, L. I., NEW YORK

LM	SIZE J	CODE IDENT NO. 26512	LDW280-18447
MODEL OR END ITEM	SCALE FULL		SHEET 3 OF 3

THIS IS AN ORIGINAL DRAWING

LDW280-18447

LDW280-18447

QTY PER ASSEMBLY	PART NO.	I&T	CODE IDENT	NOMENCLATURE OR DESCRIPTION	MATERIAL	GOVT SPEC	COML SPEC	STOCK SIZE	PROCESS SYM	FINISH NO.	ZONE
	LDW280-18459-19	E		BRACKET	AL ALLOY SH	QQ-A-250/12	7075	.028 x 4 x 8	T6	88	
	-17			CHANNEL				.028 x 3 x 8			
	-16							028 x 3 x 9			
	-15							.028 x 3 x 9			
	-13							.028 x 3 x 5			
	-12							.028 x 3 x 5			
	LDW280-18459-11	E		CHANNEL	AL ALLOY SH	QQ-A-250/12	7075	.028 X 3 x 5	T6	88	

SYM OR NO.	PROCESS SYM OR FINISH NO.	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO.	PROCESS SYM OR FINISH NO.	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO.	PROCESS SYM OR FINISH NO.	GRUMMAN SPEC OR MILITARY SPEC
						T6	HEAT TREAT	MIL-H-6088
						88	ANODIZE	LSP14-9030

I & T: IDENTIFICATION AND TRACEABILITY IN ACCORDANCE WITH NONE

GRUMMAN AIRCRAFT ENGRG CORP., BETHPAGE, L. I., NEW YORK

SIZE	CODE IDENT NO	
B	26512	LDW280-18459

SCALE NONE

SHEET 2.00

ENG 77.2 5-64

01

NAS 9-1100

MODEL OR END ITEM	NEXT ASSY	MODULE OR SER NO.	REQD PER MODULE OR END ITEM	MODEL OR END ITEM	NEXT ASSY	MODULE OR SER NO.	REQD PER MODULE OR END ITEM
LM	LDW280-54600	DESIGN VERIFICATION TEST (72)	2	LM	LDW280-54600	DESIGN VERIFICATION TEST (72)	1 EA
LM		LM-15 (45)	2	LM		LM-15 (45)	1 EA
LM		LM-14 (44)	2	LM		LM-14 (44)	1 EA
LM		LM-13 (43)	2	LM		LM-13 (43)	1 EA
LM		LM-12 (42)	2	LM		LM-12 (42)	1 EA
LM		LM-11 (41)	2	LM		LM-11 (41)	1 EA
LM		LM-10 (40)	2	LM		LM-10 (40)	1 EA
LM		LM-9 (39)	2	LM		LM-9 (39)	1 EA
LM		LM-8 (38)	2	LM		LM-8 (38)	1 EA
LM		LM-7 (37)	2	LM		LM-7 (37)	1 EA
LM		LM-6 (36)	2	LM		LM-6 (36)	1 EA
LM		LM-5 (35)	2	LM		LM-5 (35)	1 EA
LM	LDW280-54600	LM-4 (34)	2	LM	LDW280-54600	LM-4 (34)	1 EA
PART NO LDW280-18474-19		GAEC SCH NO		PART NO LDW280-18471- -2-6 -4-5-7		GAEC SCH NO. 52	

MODEL OR END ITEM	NEXT ASSY	MODULE OR SER NO	REQD PER MODULE OR END ITEM
PART NO		GAEC SCH NO	

WORK PKG FUNCTION NO. 111

SH REV STATUS FOR DESCRIPTION OF REV SEE SUBQ SH

SHEET	1 00		2 00	3 00					
REV									
SHEET									
REV									
SHEET									
REV									

LAST SECT LTR USED

LAST DASH NO USED -19

GRUMMAN REL INFO

PRIM NO		
237		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

TOLERANCE UNLESS SPECIFIED FRACTIONS - DECIMALS - ANGLES ±1/32 ±.020 ±1/2°

G ORIG DWG AUTH

DETAIL SPEC REQUIREMENT

CLASS II ENGRG CHANGE

CLASS I ENGRG CHANGE ✓

LCD 1433 (CCA584)

CONTRACT NO NAS9-1100

LINE ITEM

DOCUMENTATION TYPE I

DRAWN BY LANDSTEN 2-1-68

LAYOUT BY HANSMANN 2-7-68

CHECKED BY 2-7-68

GR. ENGR 2/12/68

STRUCTURES 2/14/68

WEIGHTS

RELIABILITY

PROJ ENGR E. Cuestin 2/13/68

REL GROUP 2-15-68

GRUMMAN AIRCRAFT ENGRG CORP
BETHPAGE, L. I., NEW YORK

CHANNEL
DESCENT STAGE-SCIENTIFIC EQ. BAY-THERMAL DOOR-FRAME SPT

SIZE B

CODE IDENT NO 26512

LDW280-18474

SCALE NONE

SHEET 1.00 OF 3

01

NAS 9-1100

LDW280-18475 A

MODEL OR END ITEM	NEXT ASSY	MODULE OR SER NO	REQD PER MODULE OF END ITEM
LM	LDW280-23519	LM-3(13)	1
PART NO LDW280-18475-1		GAEC SCH NO	

MODEL OR END ITEM	NEXT ASSY	MODULE OR SER NO	REQD PER MODULE OF END ITEM
LM	LDW280-23519	LM-5(45)	1
↑	LDW280-23519	LM-4(44)	1
	LDW280-23519	LM-5(43)	
	LDW280-23519	LM-[illegible](42)	
	LDW280-23519	LM-[illegible](41)	
	LDW280-23519	LM-[illegible](40)	
	LDW280-23519	LM-9(39)	
	LDW280-23519	LM-8(38)	1
	LDW280-23519	LM-7(37)	
	LDW280-23519	LM-6(36)	1
↓	LDW280-23519	LM-5(35)	1
LM	LDW280-23519	LM-4(34)	1
PART NO LDW280-18475-13		GAEC SCH NO 50	

MODEL OR END ITEM	NEXT ASSY	MODULE OR SER NO	REQD PER MODULE OF END ITEM
PART NO		GAEC SCH NO	

WORK PKG FUNCTION NO. 110

SH REV STATUS FOR DESCRIPTION OF REV SEE SUBQ SH

SHEET	100		200	300						
REV	A	-	A	A						
SHEET										
REV										
SHEET										
REV										

LAST SECT LTR USED
LAST DASH NO USED -13

GRUMMAN REPRO A
PRIM NO 207

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCE UNLESS SPECIFIED FRACTIONS - DECIMALS - ANGLES ±1/32 ±.010 ±1/2°
D ORIG DWG AUTH
DETAIL SPEC REQUIREMENT
CLASS II ENGRG CHANGE
CLASS I ENGRG CHANGE ✓
LCD 201 (CCA665)

CONTRACT NO NAS9-1100
LINE ITEM
DOCUMENTATION TYPE I
DRAWN BY R. SVOBODA
RELIABILITY
LAYOUT BY J. CLARK
CHECKED F. [illegible]
GR. LEADER
VEH DSGN
STRUCTURES
STRUCTURES
WEIGHTS
PROJ ENGR
REL GROUP

GRUMMAN AIRCRAFT ENGRG CORP
BETHPAGE, L. I., NEW YORK

CLIP
DESCENT STAGE - QUAD II
EJECTION MECHANISM

SIZE B
CODE IDENT NO 26512
LDW280-18475 A
SCALE NONE
SHEET 100 OF 4

CDR 12-15-67

01

NAS 9-1100

REVISIONS

CHANGE LTR	ITEM NO	SHEET NO.	ZONE	GRUMMAN INFO ONLY	DET SPEC	CLASS I	CLASS II	ENGRG ORDER	DESCRIPTION	EFFECTIVITY	DISPOSITION OF EXISTING PARTS		CHANGED BY AND DATE	ENGRG APPD	GOV APPD
											REWORK	SCRAP			
A		1&3				✓		LDD 2011 LCA 666	ADDED SH 1 & SH OF 4 WAS SH OF 3. ADDED -13 EFF LM-4 THRU LM-5. REQD VEH N/A LDW280-23518. RESTRICT -11 TO LTA-3 ADDED NOTE 2.	LTA-3 LM-4 THRU LM-5		✓	COPPOLA 4/15/66		

GRUMMAN AIRCRAFT ENGRG CORP., BETHPAGE, L. I., NEW YORK

SIZE	CODE IDENT NO.		
B	26512	LDW280-18475	A
SCALE NONE		SHEET 2	

FOR CONTINUATION OF REVISIONS SEE SHEET ______

01

NAS 9-1100

QTY PER ASSEMBLY	PART NO	&T	CODE IDENT	NOMENCLATURE OR DESCRIPTION	MATERIAL	GOVT SPEC	COML SPEC	STOCK SIZE	PROCESS SYM	FINISH NO	ZONE
	LDW280-18475-[illegible]	E		CLIP	AL ALLOY SH	QQ-A-250/12	7075-O	.071 x 2 x 3	NOTE 2	56	
	LDW280-18475-[illegible]	E		CLIP	AL ALLOY SH	QQ-A-250/12	7075-T6	.071 x 2 x 3	NONE	56	

SYM OR NO	PROCESS SYM OR FINISH NO	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO	PROCESS SYM OR FINISH NO	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO	PROCESS SYM OR FINISH NO	GRUMMAN SPEC OR MILITARY SPEC
						56	ANODIZE	SP-4-9030

*&T. CERTIFICATION AND TRACEABILITY IN ACCORDANCE WITH NONE

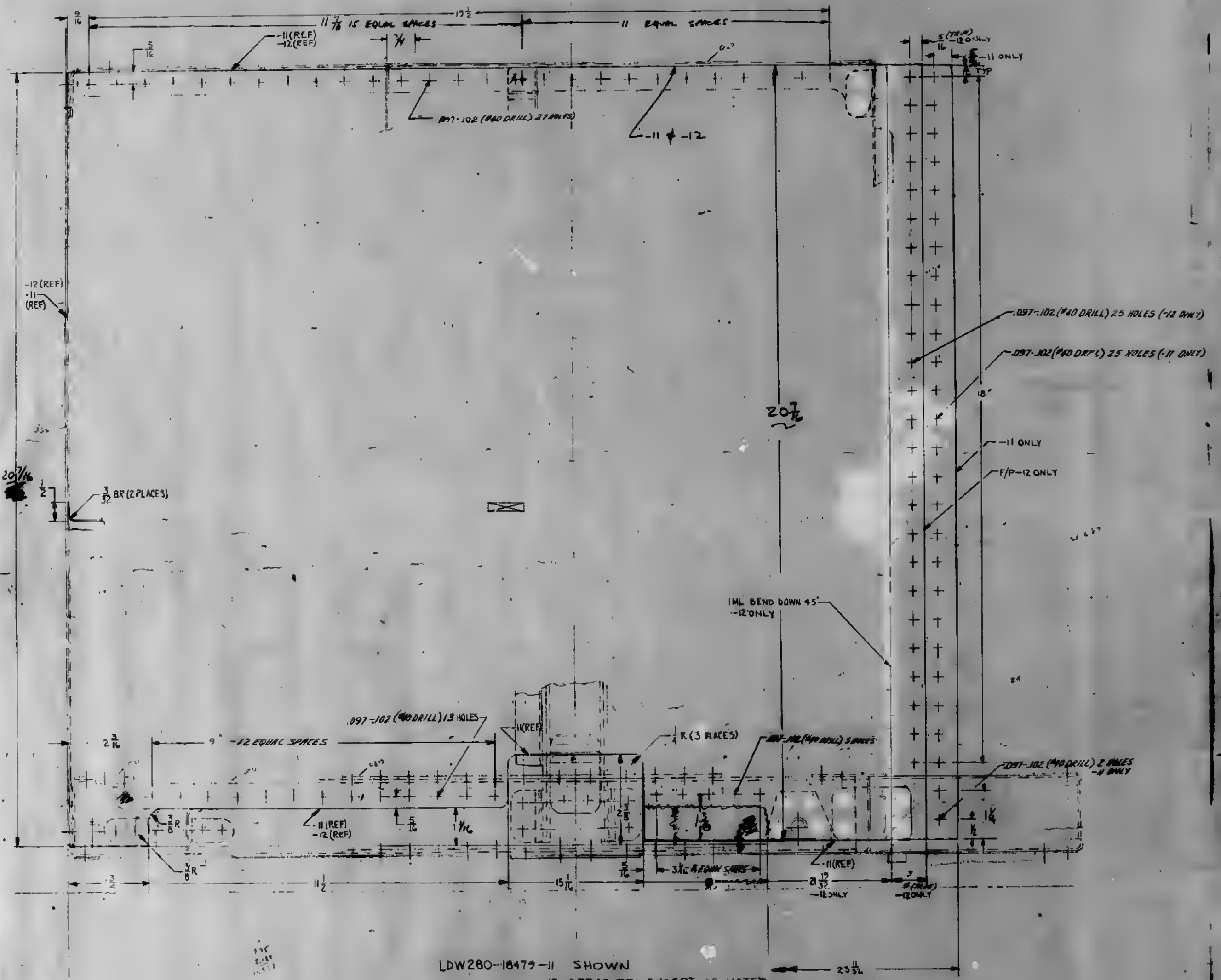
GRUMMAN AIRCRAFT ENGRG CORP., BETHPAGE L. I., NEW YORK

SIZE	CODE IDENT NO		
B	26512	LDW280-18475	A

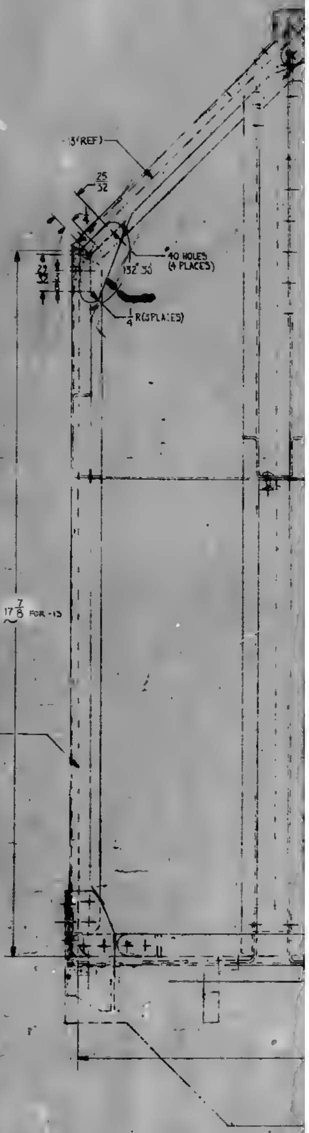
SCALE NONE SHEET 2 OF 2

01

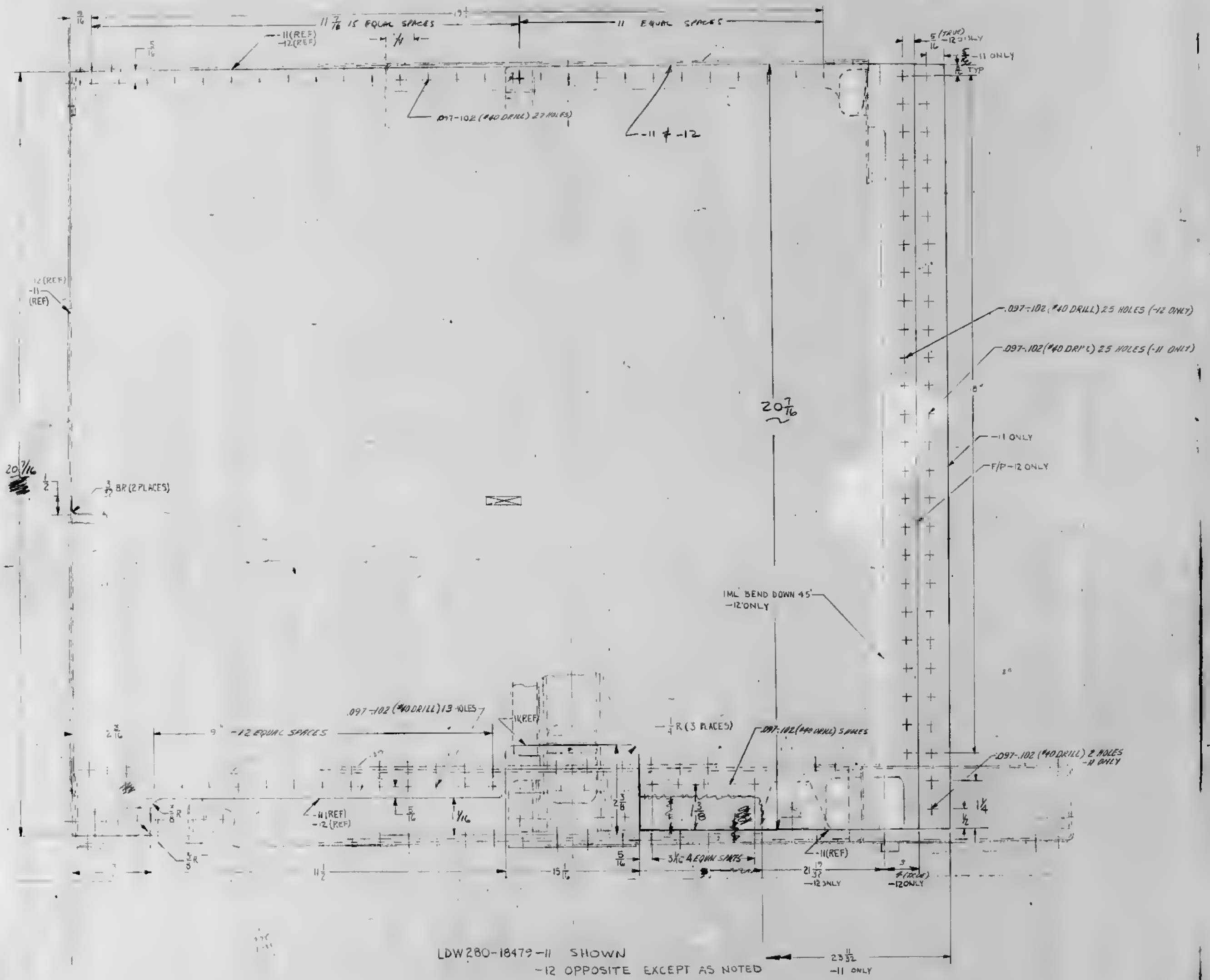
NAS 9-1100


9/16
11 7/16 15 EQUAL SPACES
19 1/2
11 EQUAL SPACES
-11(REF)
-12(REF)
5/16
3/4
.097-.102 (#40 DRILL) 27 HOLES
-11 & -12
5 (TRIM) -12 ONLY
1/16
-11 ONLY
TYP
.097-.102 (#40 DRILL) 25 HOLES (-12 ONLY)
.097-.102 (#40 DRILL) 25 HOLES (-11 ONLY)
18°
-11 ONLY
F/P-12 ONLY
20 7/16
-12 (REF)
-11 (REF)
20 7/16
1/2
3/32 BR (2 PLACES)
IML BEND DOWN 45°
-12 ONLY
2 3/16
9
12 EQUAL SPACES
.097-.102 (#40 DRILL) 13 HOLES
-11(REF)
1/4 R (3 PLACES)
.097-.102 (#40 DRILL) 5 HOLES
.097-.102 (#40 DRILL) 2 HOLES -11 ONLY
3/8 R
-11 (REF)
-12 (REF)
5/16
1 1/16
2 3/8
1 1/4
1/2
3/8 R
3/4
11 1/2
15 1/16
5/16
3 1/16 4 EQUAL SPACES
-11(REF)
21 17/32
-12 ONLY
5 (TRIM)
-12 ONLY
23 11/32
-11 ONLY

LDW280-18479-11 SHOWN
-12 OPPOSITE EXCEPT AS NOTED

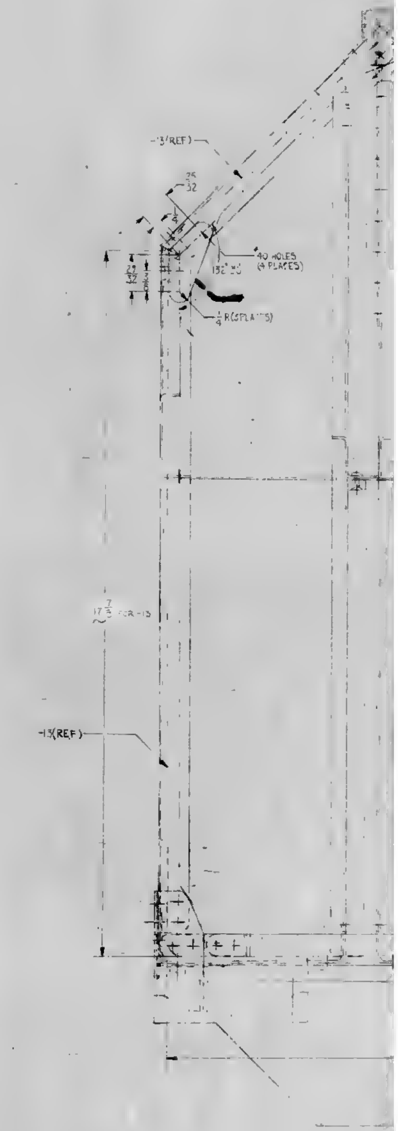

13(REF)
25/32
.40 HOLES (4 PLACES)
132° 30'
23/32
1/4 R (3 PLACES)
17 7/8 FOR -13
-13(REF)
11

NAS 5-1100



9/16
11 7/16 15 EQUAL SPACES
19 1/4
11 EQUAL SPACES
-11(REF)
-12(REF)
5/16
.097-.102 (#40 DRILL) 27 HOLES
-11 & -12
5/16 (TRUE)
-12 ONLY
-11 ONLY
TYP
12(REF)
-11
(REF)
.097-.102 (#40 DRILL) 25 HOLES (-12 ONLY)
.097-.102 (#40 DRILL) 25 HOLES (-11 ONLY)
20 7/16
20 7/16
1/2
3/32 BR (2 PLACES)
-11 ONLY
F/P -12 ONLY
IML BEND DOWN 45°
-12 ONLY
.097-.102 (#40 DRILL) 13 HOLES
-11(REF)
1/4 R (3 PLACES)
.097-.102 (#40 DRILL) 5 HOLES
2 3/16
9" -12 EQUAL SPACES
.097-.102 (#40 DRILL) 2 HOLES -11 ONLY
-11(REF)
-12 (REF)
5/16
1/16
2 3/8
3/8
1 1/4
1/2
5/8 R
5/8 R
-11(REF)
11 1/2
15 1/16
5/16
3 3/16 4 EQUAL SPACES
21 19/32
-12 ONLY
-12 ONLY
23 11/32
-11 ONLY

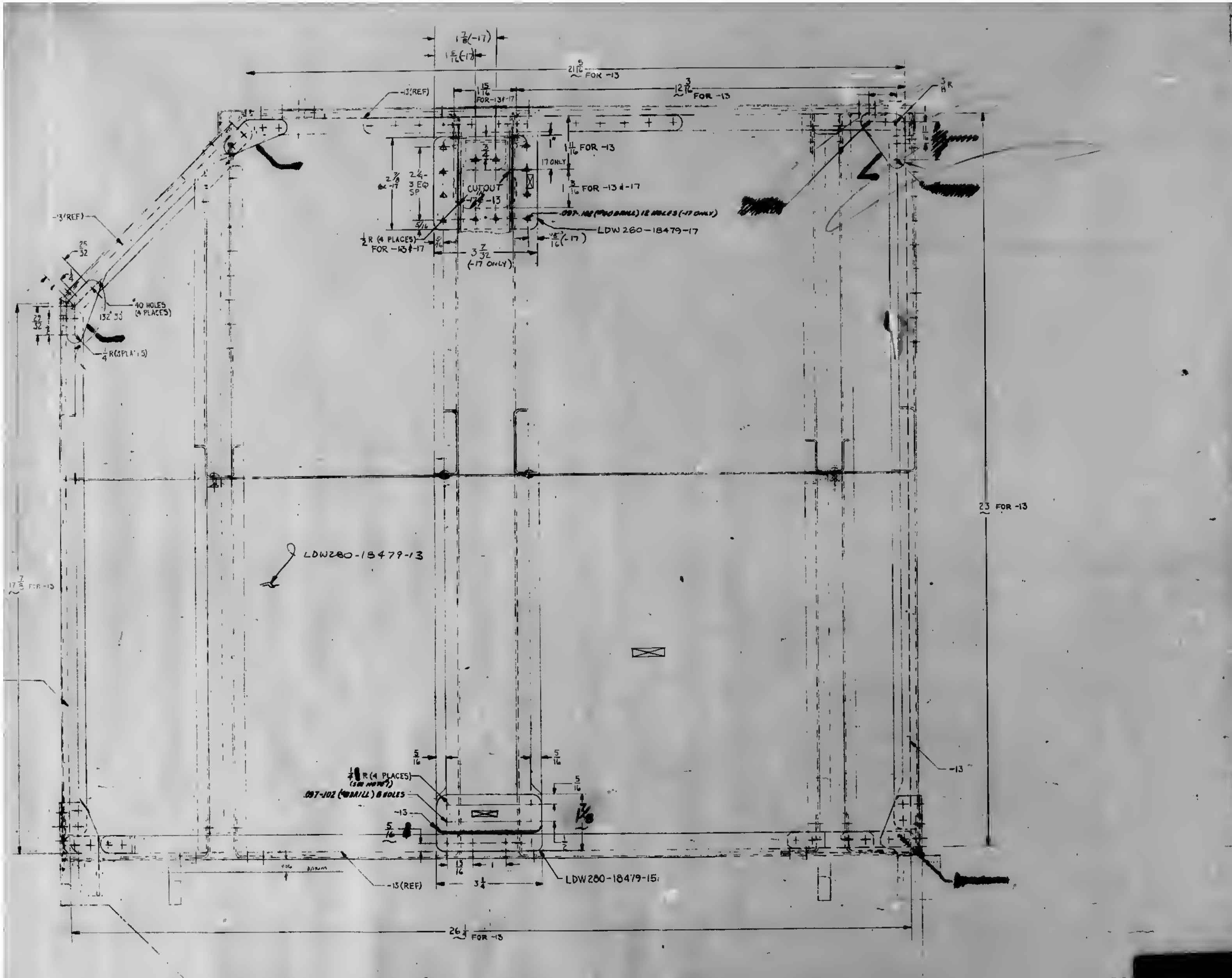
LDW280-18479-11 SHOWN
-12 OPPOSITE EXCEPT AS NOTED



-13(REF)
25/32
#40 HOLES (4 PLACES)
1/4 R (5 PLACES)
17 3/8 FOR -13
-13(REF)

01/02

NAS 9-1100



$1\frac{7}{8}$(-17)
$1\frac{5}{16}$(-17)
$21\frac{5}{16}$ FOR -13
-13(REF)
$1\frac{15}{16}$ FOR -13 & -17
$12\frac{3}{16}$ FOR -13
$\frac{3}{8}$R
1"
$1\frac{11}{16}$ FOR -13
17 ONLY
$\frac{3}{4}$
$2\frac{7}{8}$ -17
$2\frac{1}{4}$ - 3 EQ SP
CUTOUT -17 & -13
$1\frac{3}{16}$ FOR -13 & -17
.097-.102 (#40 DRILL) 12 HOLES (-17 ONLY)
LDW 260-18479-17
$\frac{5}{16}$
$\frac{1}{2}$R (4 PLACES) FOR -13 & -17
$3\frac{7}{32}$ (-17 ONLY)
$\frac{15}{16}$(-17)
-13(REF)
$\frac{25}{32}$
.40 HOLES (4 PLACES)
132° 30'
$\frac{23}{32}$
$\frac{1}{4}$R (3 PLACES)
LDW280-18479-13
23 FOR -13
$17\frac{7}{8}$ FOR -13
$\frac{5}{16}$
$\frac{1}{4}$R (4 PLACES) (SEE NOTE 1)
.097-.102 (#40 DRILL) 8 HOLES
-13
$1\frac{7}{8}$
$\frac{13}{16}$
1
$3\frac{1}{4}$
-13
-13(REF)
LDW280-18479-15
$26\frac{1}{4}$ FOR -13

MANUFACTURING OPERATIONS

NOTE:

~~[illegible] REQD FOR MFG [illegible] 18479~~
~~[illegible] REF ONLY.~~

1. ¼" OUTSIDE ,RADII OPTIONAL ALL PARTS
2. NO TOOLING HOLES PERMITTED IN PARTS

MAY BE
LAYOUT RELEASE [redacted] REDRAWN ON
PRODUCTION FORMAT

ALL INFORMATION NOT REQ'D
FOR MFG OF PARTS IS FOR
REF ONLY

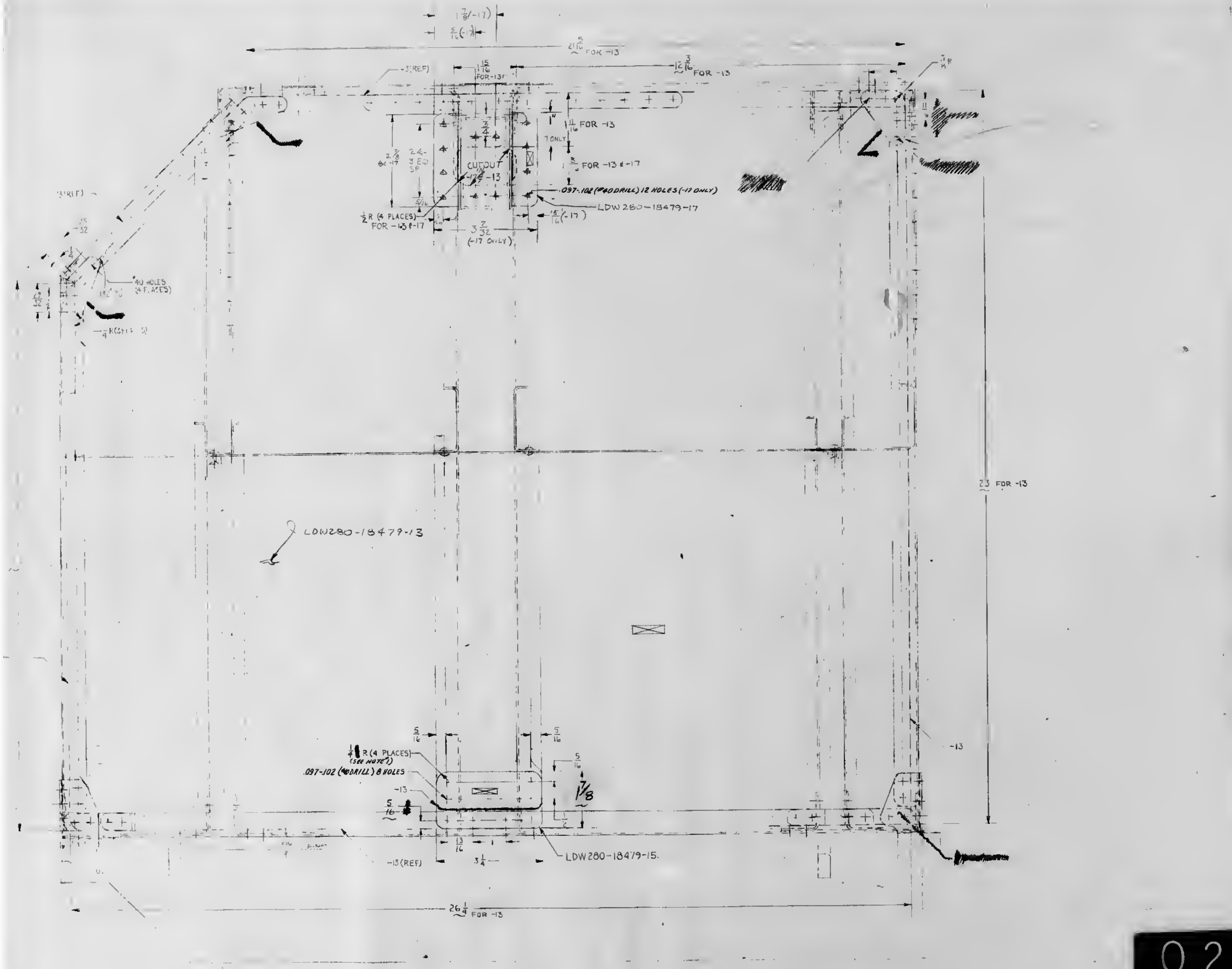
/ 2

GAS 8-1190

LM	K	26512	LDW280-18479
	FULL		3.00

LDW280-18479

LDW280-18479


1 7/8 (-17)
5/16 (-17)
21 5/16 FOR -13
12 3/16 FOR -13
-3 (REF)
1 15/16 FOR -13
3/4 R
2 7/8 (-17)
2-4-3 EQ SP
3/4
1/4
11/16 FOR -13
7 ONLY
1 5/8 FOR -13 & -17
CUTOUT -17 & -13
.097-.102 (#40 DRILL) 12 HOLES (-17 ONLY)
LDW280-18479-17
1/2 R (4 PLACES) FOR -13 & -17
5/16
3 7/32 (-17 ONLY)
15/16 (-17)
-3 (REF)
15/32
40 HOLES (4 PLACES)
1/4 R (4 PLACES)
23 FOR -13
LDW280-18479-13
5/16
5/16
5/16
1/4 R (4 PLACES) (SEE NOTE 1)
.097-.102 (#40 DRILL) 8 HOLES
-13
1 7/8
5/16
13/16
3 1/4
-13 (REF)
LDW280-18479-15
-13
26 1/4 FOR -13

MANUFACTURING OPERATIONS UNLESS OTHERWISE SPECIFIED NOTES CHECKED ✓ APPLY TO THIS DWG.	
RUBBER STAMP PART NUMBER AND ALL OTHER MARKINGS IN REGION MARKED ▭ USE BOTH SIDES IF NECESSARY.	✓
FILLET AND INSIDE CORNER RADII TOLERANCES .016R TO .062R ± .010 .063R TO .250R ± .015 OVER .250R ± .030	
DEPTH SHOWN FOR TAPPED HOLES IS FULL THDS. 2-3 IMP THDS. BEYOND PERMISSIBLE.	
EXTERNAL THREAD LENGTH SHOWN INCLUDES 2 IMPERFECT THREADS MAX.	
DO NOT CADMIUM PLATE & PAINT HOLES ON SURFACES MARKED WITH DOUBLE ASTERISK.	
MISMATCH STEP OF ± .005 PERMISSIBLE DUE TO CHANGE OF CUTTERS AT INSIDE INTERSECTING SURFACES.	
DIAMETERS MARKED MUST BE CONCENTRIC WITHIN FULL INDICATOR READING	
HOLES MUST BE KEPT FREE OF CHROME PLATING SOLUTION.	
ALL DIMENSIONS SHOWN TO BE MET AFTER CADMIUM PLATING. THICKNESS OF PLATE .0003 MIN. TO .0005 MAX. CIRC. THICKNESS TO BE .0002 ON THREADED AREAS. NO ALLOWANCE FOR PLATING IN HOLES	
125 √ SURFACE ROUGHNESS INCLUDING REAMED HOLES PER MIL-STD-10	
250 √ FOR ALL DRILLED HOLES	
REMOVE ALL BURRS. BREAK ALL EDGES .015-.031	✓
INSPECTION INFORMATION MINIMUM PERMISSIBLE AVERAGE EDGE DISTANCE MARKED E	
SYMBOL f DENOTES SURFACE TO BE MACHINED	
UNLESS OTHERWISE SPECIFIED TOLERANCE ON FLANGES IS ± 1/32	✓
LENGTHS OF AN, NAS & MS AL ALY RIVETS SHORTER THAN 1 INCH ARE NOT SPECIFIED.	
TOLERANCE ON LOFTED DELINEATIONS IS	

DWG SIZE 40 X

NOTE:

~~ALL INFORMATION NOT REQD FOR MFG OF LDW280-18479 PARTS IS FOR REF ONLY~~

1. 1/4" OUTSIDE RADII OPTIONAL ALL PARTS
2. NO TOOLING HOLES PERMITTED IN PARTS

LDW280-18479

MAY BE
LAYOUT RELEASE ~~[illegible]~~ REDRAWN ON
PRODUCTION FORMAT

ALL INFORMATION NOT REQ'D
FOR MFG OF PARTS IS FOR
REF ONLY

LDW280-18479

02/02

NAS 9-1100

GRUMMAN AIRCRAFT ENGRG CORP., BETHPAGE, L. I., NEW YORK	
SIZE K	CODE IDENT NO. 26512
LDW280-18479	
MODEL OR END ITEM	SCALE FULL
SHEET 3 OF	

MODEL OR END ITEM	NEXT ASSY	MODULE OR SER NO	REQD PER MODULE OR END ITEM
PART NO		GAEC SCH NO	
LM	LDW280-23669(LM-3)	2	
PART NO LDW280-348-7		50	
LM	LDW280-23669(LM-5)		
PART NO LDW280-348-1-2 -3-4-5-6-9-20		50	

[illegible] F.A.C.T. No. F

SH REV STATUS FOR DESCRIPTION OF REV SEE SHEET 1

SHEET	1 OF 3 SHEETS
REV	
SHEET	
REV	
SHEET	
REV	

LAST SECT LTR USED D

LAST DASH NO USED -20

GRUMMAN REF INFO

PREV NO

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

TOLERANCE UNLESS SPECIFIED FRACTIONS - DECIMALS - ANGLES

2 DRG DWG AUTH

DETAIL SPEC REQUIREMENT

CLASS I ENGRG CHANGE

CLASS II ENGRG CHANGE ✓

LCD 412 CCA 556

CONTRACT NO NAS 9-1100

LINE VIEW

DOCUMENTATION TYPE III

DRAWN BY E. BELER

LAYOUT BY

CHECKED BY

GP LEADER

PROJ ENGR

REL GROUP

WEIGHTS

GRUMMAN AIRCRAFT ENGRG CORP
BETHPAGE, L.I., NEW YORK

CHANNEL
DESCENT STAGE - [illegible]
[illegible]

SIZE B

CODE IDENT NO 26512

LDW280-348

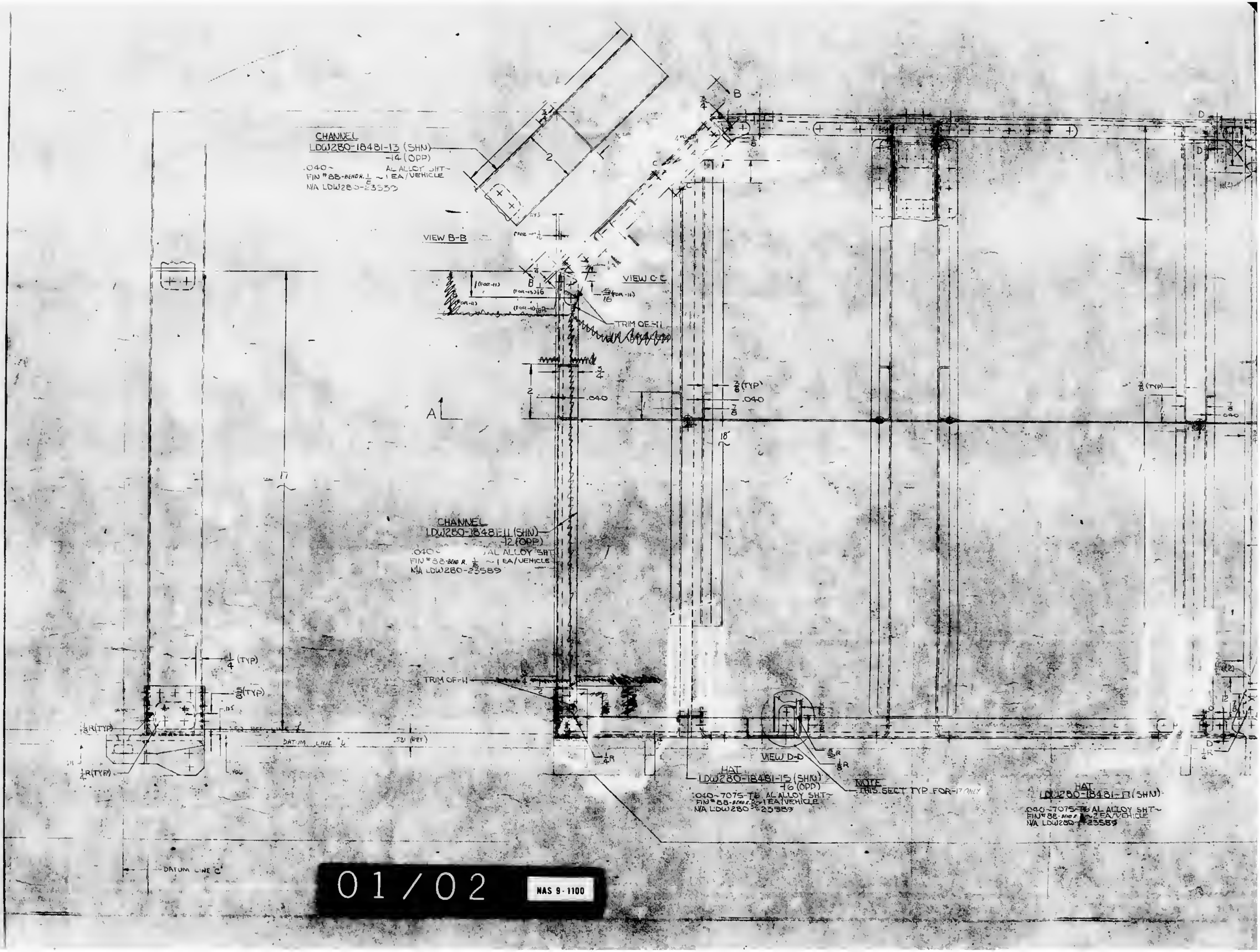
SCALE NONE

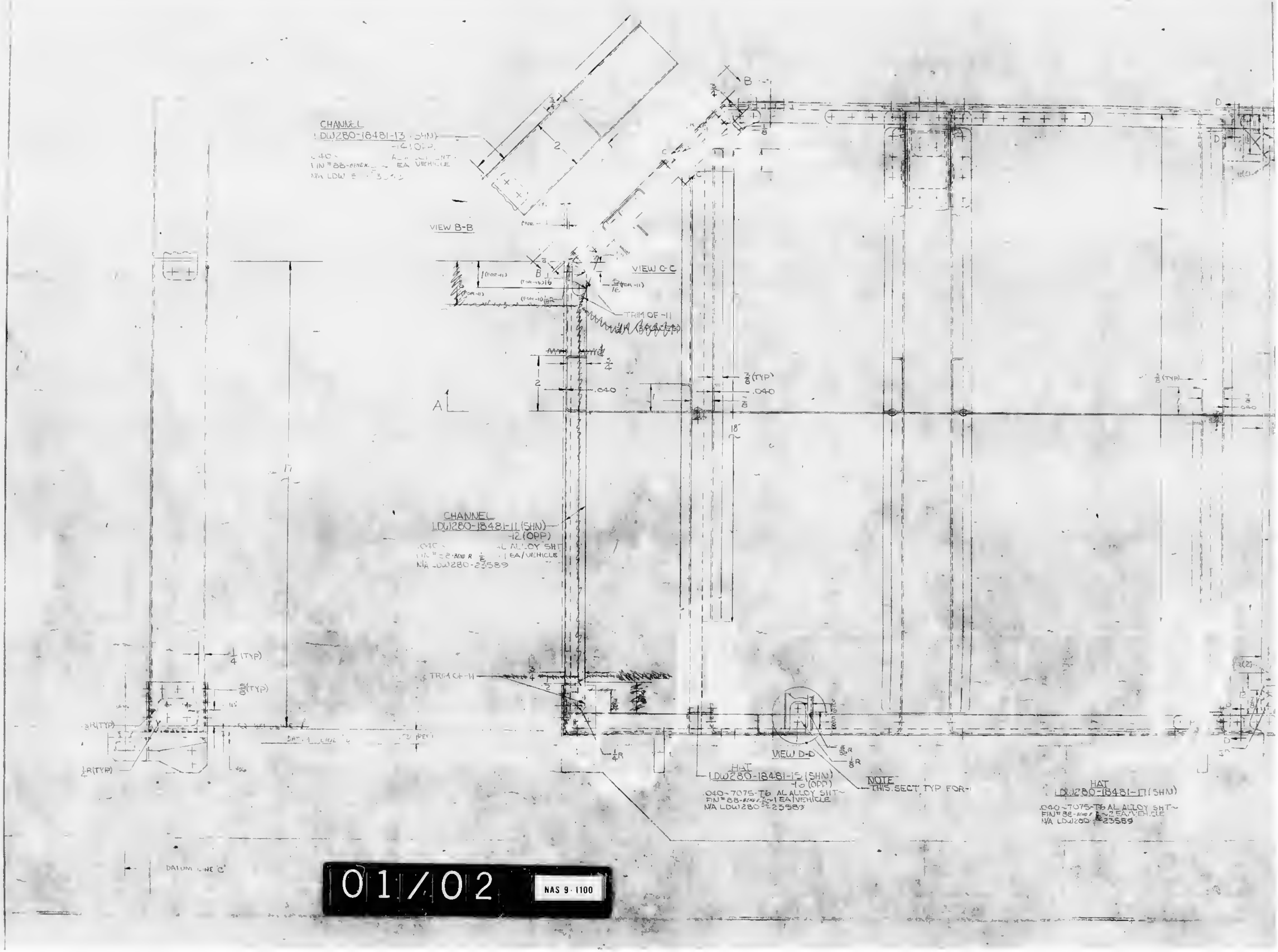
SHEET 1 OF 3

CDR 3-6-67

01

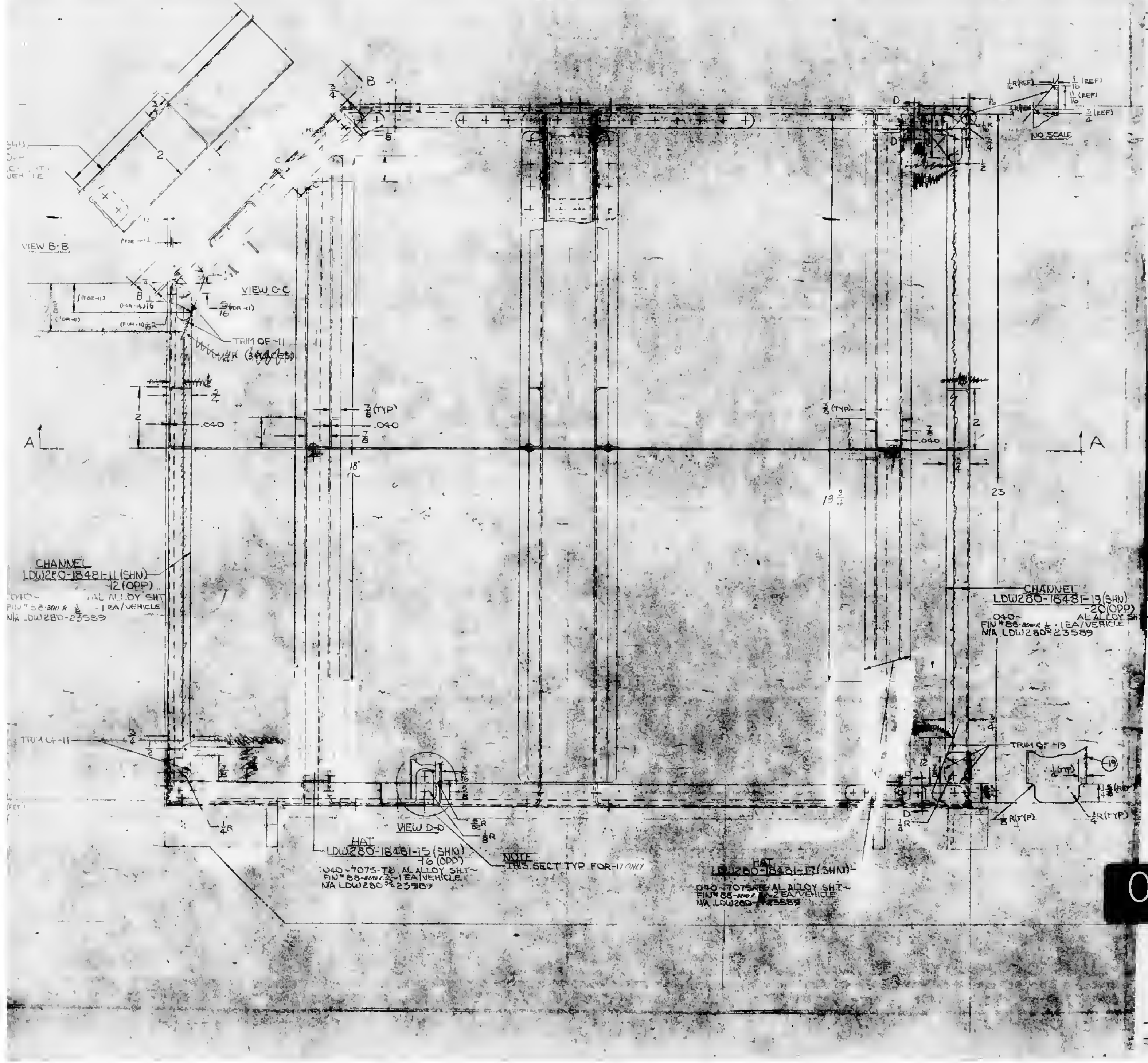
NAS 9-1100


CHANNEL
LDW280-18481-13 (SHN)
-14 (OPP)
.040 ~ AL ALLOY SHT ~
FIN #88-BEND R. $\frac{1}{8}$ ~ 1 EA/VEHICLE
N/A LDW280-23589
VIEW B-B
B
C
D
VIEW C-C
TRIM OFF-11
A
17
18
2
$\frac{3}{4}$
.040
$\frac{7}{8}$ (TYP)
$\frac{7}{8}$
$\frac{1}{4}$ (TYP)
$\frac{5}{8}$ (TYP)
.8R (TYP)
$\frac{1}{4}$R (TYP)
DATUM LINE "L"
.521 (REF)
DATUM LINE "C"
CHANNEL
LDW280-18481-11 (SHN)
-12 (OPP)
.040 ~ AL ALLOY SHT
FIN #88-BEND R. $\frac{1}{8}$ ~ 1 EA/VEHICLE
N/A LDW280-23589
TRIM OFF-11
$\frac{1}{4}$R
VIEW D-D
$\frac{5}{32}$R
$\frac{1}{8}$R
HAT
LDW280-18481-15 (SHN)
-16 (OPP)
.040 ~ 7075-T6 AL ALLOY SHT ~
FIN #88-BEND R. $\frac{3}{32}$ ~ 1 EA/VEHICLE
N/A LDW280-23589
NOTE
THIS SECT TYP FOR -17 ONLY
HAT
LDW280-18481-17 (SHN)
.040 ~ 7075-T6 AL ALLOY SHT ~
FIN #88-BEND R. ~ 2 EA/VEHICLE
N/A LDW280-23589
01/02
NAS 9-1100


CHANNEL
LDW280-18481-13 (SHN)
-14 (OPP)
.040 ~ AL ALLOY SHT ~
FIN # 88-BEND R ~ EA VEHICLE
N/A LDW 280-23589
VIEW B-B
2
B
C
3/4
1/8
VIEW C-C
1 (FOR-13)
(FOR-11) 5/16
(FOR-11) 1/8 R
5/16 (FOR-11)
TRIM OF -11
N/A (BRACKET)
3/4
2
.040
A
17
3/8 (TYP)
.040
1/8
18
3/8 (TYP)
CHANNEL
LDW280-18481-11 (SHN)
-12 (OPP)
.040 ~ AL ALLOY SHT
FIN # 88-BEND R 1/8 ~ 1 EA/VEHICLE
N/A LDW280-23589
1/4 (TYP)
5/8 (TYP)
TRIM OF -11
3/4
.3 R (TYP)
1/8 R (TYP)
DATUM LINE C
1/4 R
VIEW D-D
5/32 R
1/8 R
HAT
LDW280-18481-15 (SHN)
-16 (OPP)
.040 ~ 7075-T6 AL ALLOY SHT ~
FIN # 88-BEND R 5/32 ~ 1 EA/VEHICLE
N/A LDW280-23589
NOTE
THIS SECT TYP FOR -
HAT
LDW280-18481-17 (SHN)
.040 ~ 7075-T6 AL ALLOY SHT ~
FIN # 88-BEND R 1/8 ~ 2 EA/VEHICLE
N/A LDW280-23589
D
DATUM LINE C

01/02

NAS 9-1100


VIEW B-B
VIEW C-C
TRIM OF -11
1/4 R (3 PLACES)
NO SCALE
A
A
18"
13 3/4
23
3/8 (TYP)
.040
CHANNEL
LDW280-18481-11 (SHN)
-12 (OPP)
.040~ AL ALLOY SHT
FIN #88 · BEND R 1/8 · 1 EA/VEHICLE
N/A LDW280-23589
CHANNEL
LDW280-18481-19 (SHN)
-20 (OPP)
.040~ AL ALLOY SHT
FIN #88 · BEND R 1/8 · 1 EA/VEHICLE
N/A LDW280-23589
TRIM OF -11
TRIM OF -19
VIEW D-D
HAT
LDW280-18481-15 (SHN)
-16 (OPP)
.040~7075-T6 AL ALLOY SHT~
FIN #88-BEND R 3/32~1 EA/VEHICLE
N/A LDW280-23589
NOTE
THIS SECT TYP FOR -17 ONLY
HAT
LDW280-18481-17 (SHN)
.040~7075-T6 AL ALLOY SHT~
FIN #88-BEND R ~2 EA/VEHICLE
N/A LDW280-23589

MANUFACTURING OPERATIONS
UNLESS OTHERWISE SPECIFIED
NOTES CHECKED APPLY TO THIS DWG

PART NUMBER AND ALL OTHER MARKINGS IN REGION MARKED USE BOTH AREAS IF NECESSARY

FILLET AND INSIDE CORNER RADII TOLERANCES
OVER 25R ±

DEPTH SHOWN FOR TAPPED HOLES IS FULL THDS. [illegible] IMP THDS BEYOND PERMISSIBLE

EXTERNAL THREAD LENGTH SHOWN INCLUDES 2 IMPERFECT THREADS MAX

DO NOT CARRY IN PLATE & PAINT HOLES OR SURFACES MARKED WITH DOUBLE ASTERISK

MISMATCH STEP OF ± .005 PERMISSIBLE DUE TO CHANGE OF CUTTERS AT INSIDE INTERSECTING SURFACES

DIAMETERS MARKED MUST BE CONCENTRIC WITHIN FULL INDICATOR READING

HOLES MUST BE KEPT FREE OF CHROME PLATING SOLUTION

ALL DIMENSIONS SHOWN TO BE MET AFTER CADMIUM PLATING THICKNESS OF PLATE .0002 MIN TO .0005 MAX MIN THICKNESS TO BE .0002 ON THREADED AREAS NO ALLOWANCE FOR PLATING IN HOLES

125 SURFACE ROUGHNESS INCLUDING REAMED HOLES PER MIL STD 10

200 FOR ALL DRILLED HOLES

REMOVE ALL BURRS BREAK ALL EDGES

INSPECTION INFORMATION MINIMUM PERMISSIBLE AVERAGE EDGE DISTANCE MARKED

SYMBOL DENOTES SURFACE TO BE MACHINED

UNLESS OTHERWISE SPECIFIED TOLERANCE ON FLANGES IS ± 1/32

LENGTHS OF AN NAS RIVETS AL ALY RIVETS SHORTER THAN 1 INCH ARE NOT SPECIFIED

TOLERANCE ON [illegible] DECIMALS [illegible]

DWG SIZE 42 X

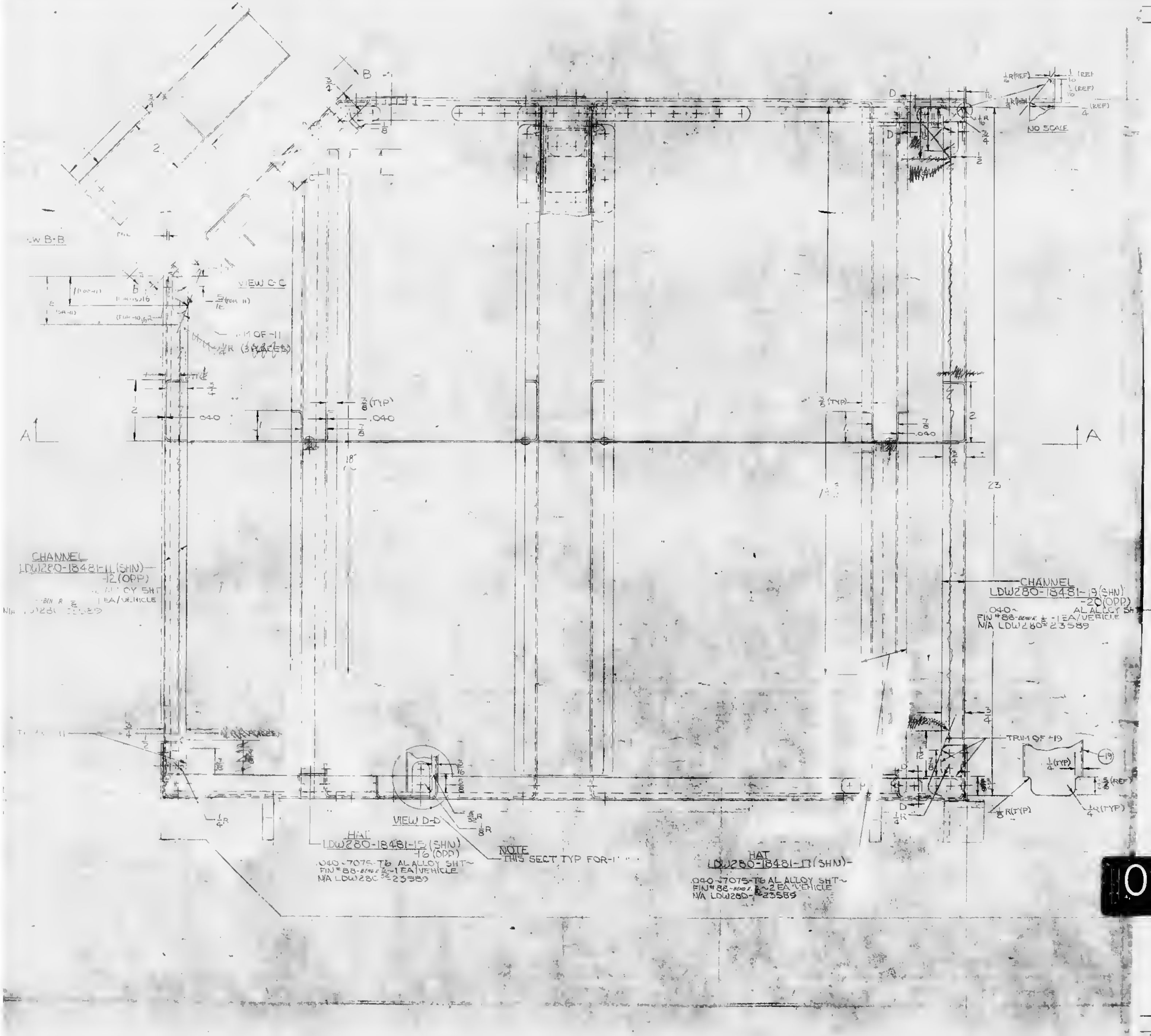
02/02

NAS 9-1100

GRUMMAN AIRCRAFT ENGRG CORP. BETHPAGE, L. I., NEW YORK

SIZE	CODE IDENT NO		
K	26512	[illegible]	

MODEL OR END ITEM | SCALE | | SHEET

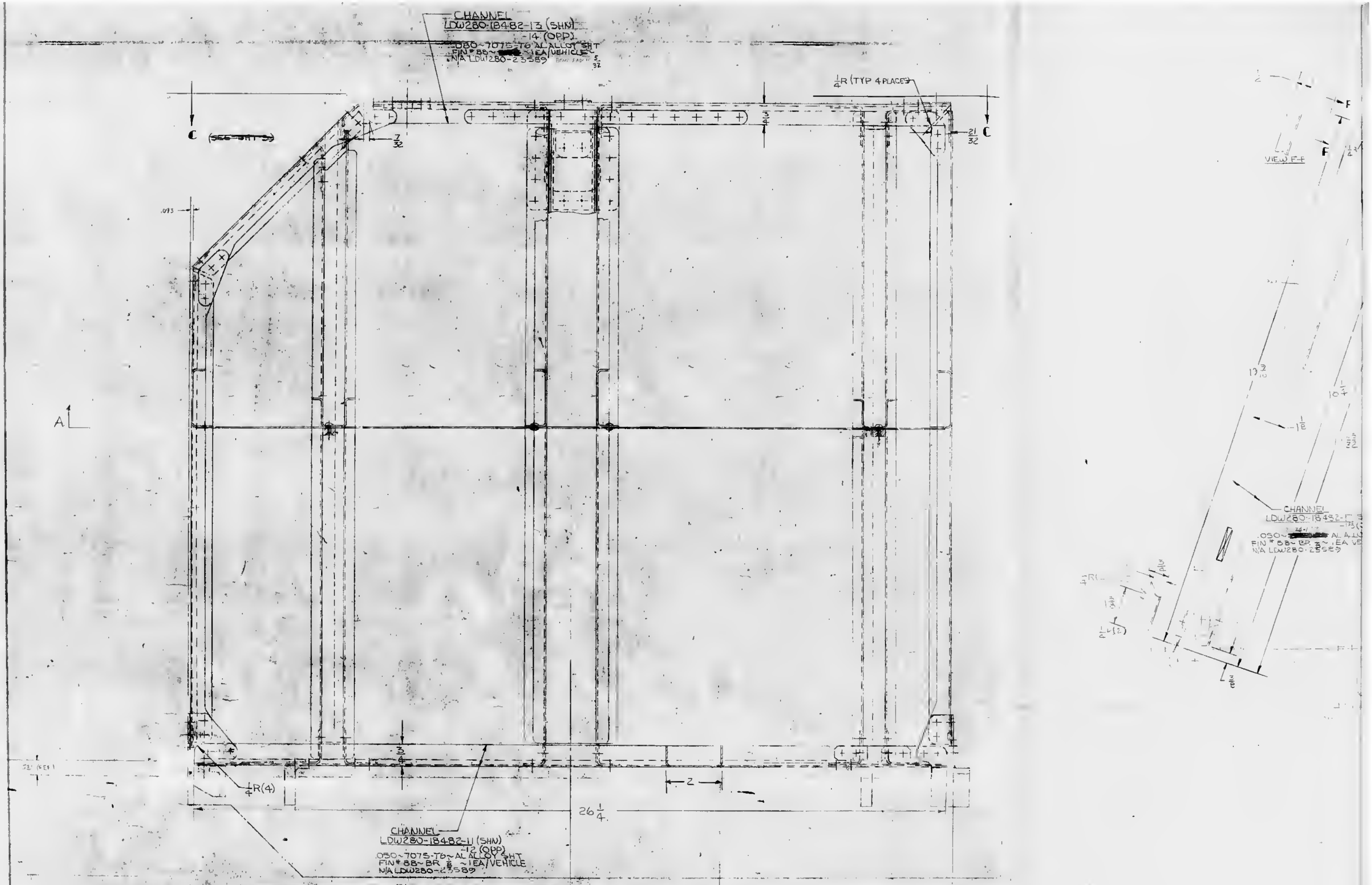

VIEW B-B
VIEW C-C
VIEW D-D
NO SCALE
A
A
23
2
.040
$\frac{3}{8}$(TYP)
$\frac{7}{8}$
$\frac{3}{4}$
$\frac{1}{2}$
$\frac{1}{4}$R
$\frac{1}{8}$R
$\frac{5}{32}$R
$\frac{1}{8}$R(TYP)
$\frac{1}{4}$R(TYP)
$\frac{1}{4}$(TYP)
$\frac{1}{16}$(REF)
$\frac{3}{4}$(REF)
TRIM OF -11
TRIM OF -19
(3 PLACES)
CHANNEL
LDW280-18481-11 (SHN)
-12 (OPP)
AL ALLOY SHT
1 EA/VEHICLE
CHANNEL
LDW280-18481-19 (SHN)
-20 (OPP)
.040~ AL ALLOY SH
FIN #88-BEND R $\frac{1}{8}$ ~1 EA/VEHICLE
N/A LDW280-23589
HAT
LDW280-18481-15 (SHN)
-16 (OPP)
.040~7075-T6 AL ALLOY SHT~
FIN #88-BEND R $\frac{3}{32}$~1 EA/VEHICLE
N/A LDW280-23589
NOTE
THIS SECT TYP FOR-1
HAT
LDW280-18481-17 (SHN)-
.040~7075-T6 AL ALLOY SHT~
FIN #88-BEND R $\frac{3}{32}$~2 EA/VEHICLE
N/A LDW280-23589
MANUFACTURING OPERATIONS

02/02

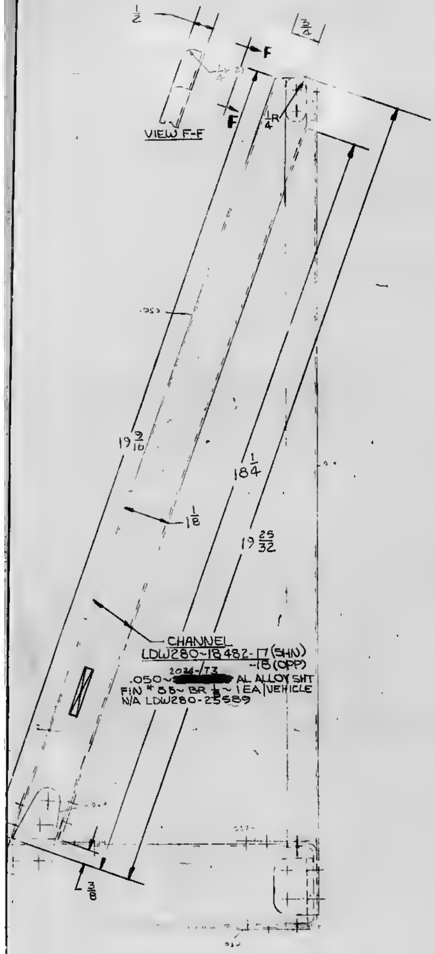
NAS 9-1100

GRUMMAN AIRCRAFT ENGRG CORP BETHPAGE L.I. NEW YORK

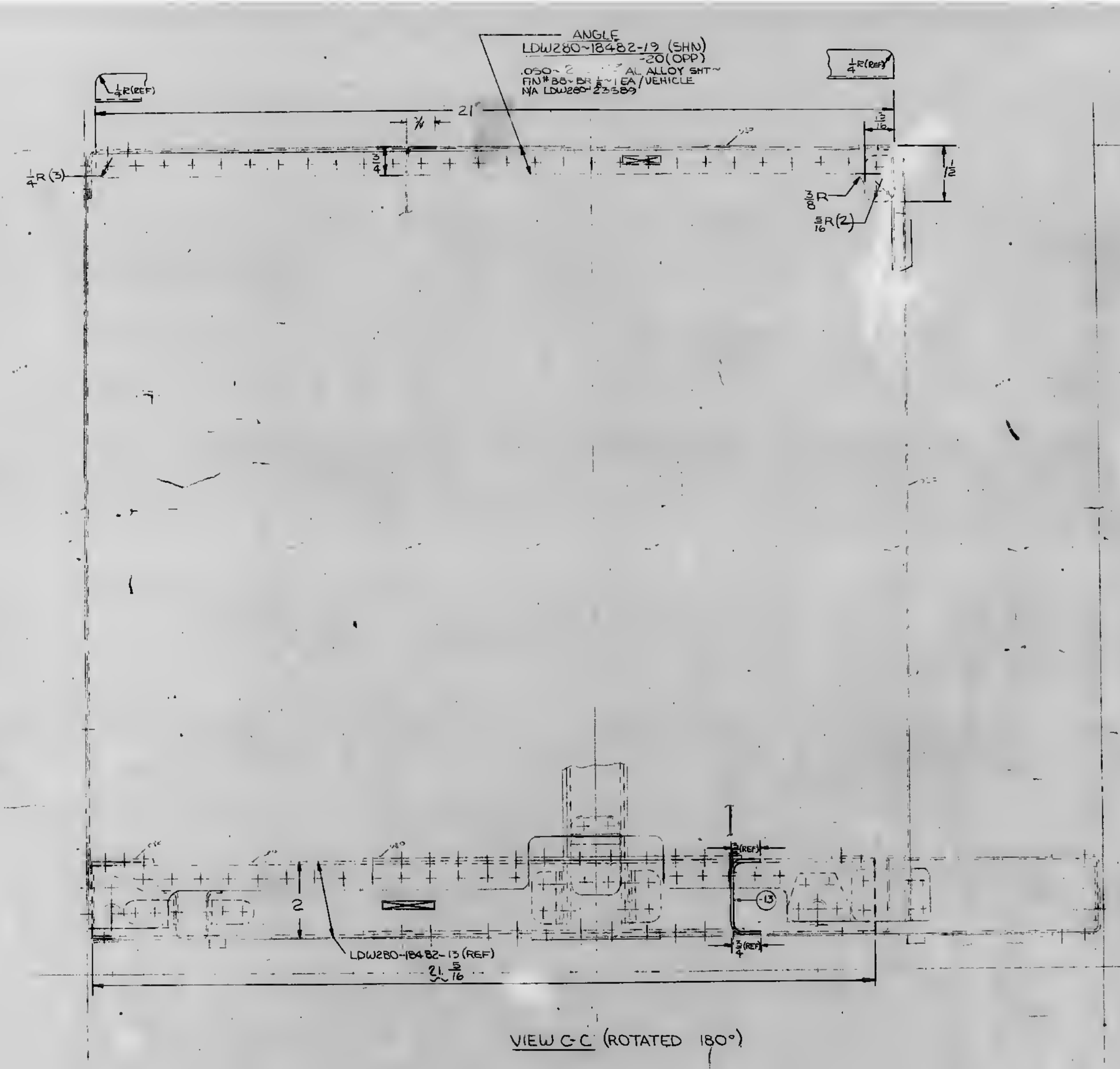
SIZE	CODE IDENT NO.
K	26512


CHANNEL
LDW280-18482-13 (SHN)
-14 (OPP)
.080~7075-T6 AL ALLOY SHT
FIN # 88~[redacted]~1EA/VEHICLE
N/A LDW280-23589
BEND RADIUS 5/32
1/4 R (TYP 4 PLACES)
C
C
7/32
3/4
21/32
.093
A
3/4
1/4 R(4)
2
26 1/4
CHANNEL
LDW280-18482-11 (SHN)
-12 (OPP)
.050~7075-T6~AL ALLOY SHT
FIN # 88~BR 1/8 ~1EA/VEHICLE
N/A LDW280-23589
F
F
VIEW F-F
13 3/16
10 1/4
1 1/8
CHANNEL
LDW280-18482-15
.050~[redacted] AL ALL
FIN # 88~BR 1/8 ~1EA VE
N/A LDW280-23589

01/03 NAS 9-1100



1/2
3/4
F
F
VIEW F-F
1/4 R
19 9/16
18 1/4
1 1/8
19 25/32
CHANNEL
LDW280-18482-17 (SHN)
-18 (OPP)
.050~[redacted] AL ALLOY SHT
FIN # 88~BR 1/8~1 EA/VEHICLE
N/A LDW280-25589
3/8

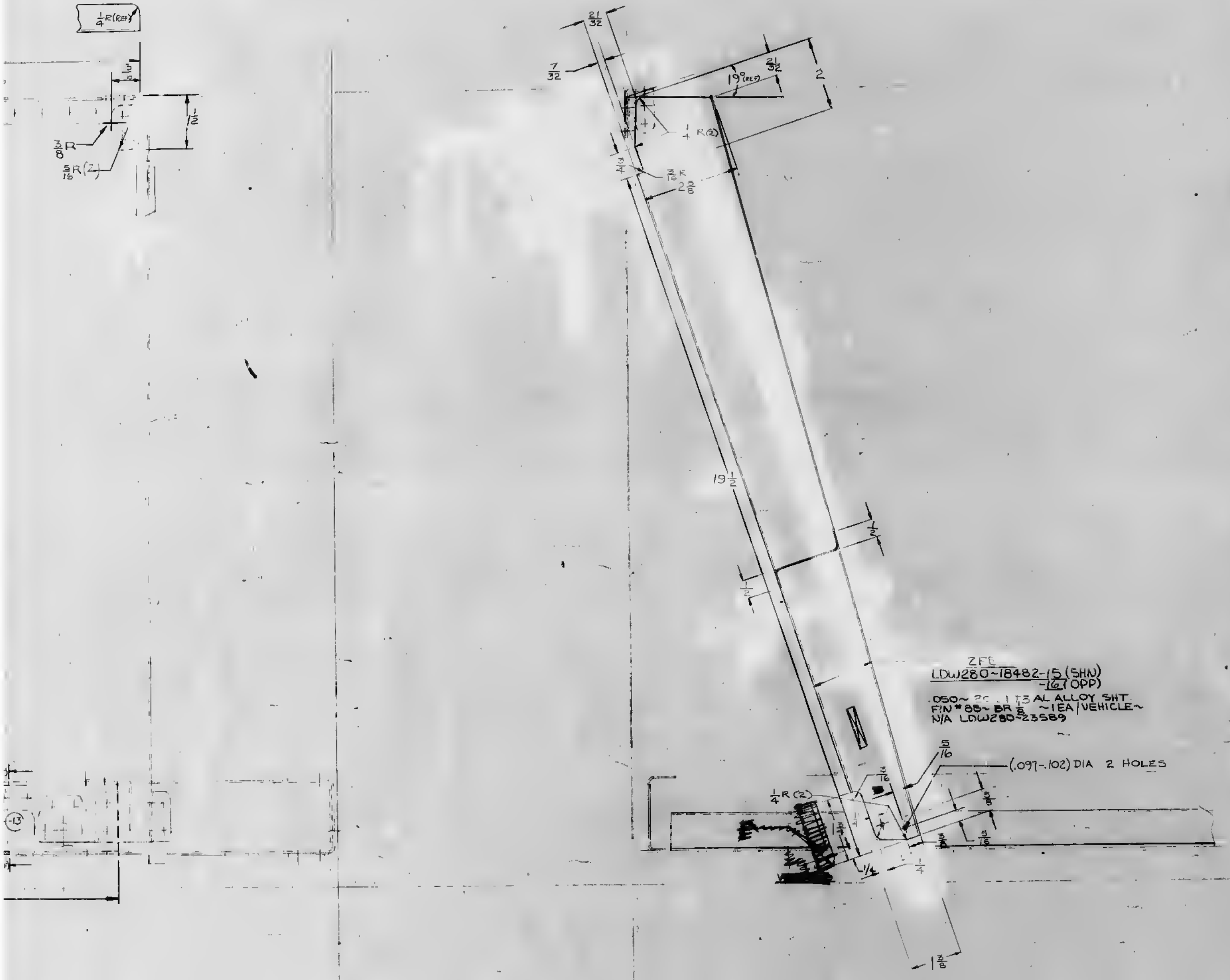


ANGLE
LDW280~18482-19 (SHN)
-20 (OPP)
.050~2 AL ALLOY SHT~
FIN # 88~BR 1/8~1 EA/VEHICLE
N/A LDW280-23589
1/4 R (REF)
1/4 R (REF)
21
3/16
13/16
7/32
3/4
1/2
1/4 R (3)
3/8 R
5/16 R (2)
2
-13
1/8 (REF)
3/4 (REF)
LDW280-18482-13 (REF)
21 5/16

VIEW C-C (ROTATED 180°)

02/03

NAS 9-1100


$\frac{1}{4}$R(REF)
$\frac{1}{32}$
$\frac{1}{2}$
$\frac{3}{8}$R
$\frac{5}{16}$R(2)
$\frac{21}{32}$
$\frac{7}{32}$
19°(REF)
$\frac{21}{32}$
2
$\frac{1}{4}$R(2)
$\frac{3}{16}$R
$2\frac{3}{8}$
$19\frac{1}{2}$
$\frac{1}{2}$
$\frac{1}{2}$
$\frac{5}{16}$
$\frac{1}{4}$R(2)
$\frac{3}{16}$
$\frac{5}{8}$
$\frac{5}{16}$
$\frac{3}{16}$
$\frac{1}{4}$
$\frac{1}{4}$
$1\frac{3}{8}$
-13

ZFE
LDW280~18482-15(SHN)
-16(OPP)
.050~ 2C...T3 AL ALLOY SHT
F/N # 88~ BR $\frac{1}{8}$ ~1EA/VEHICLE~
N/A LDW280~23589

(.097-.102) DIA 2 HOLES

MANUFACTURING OPERATIONS
UNLESS OTHERWISE SPECIFIED
NOTES CHECKED ✓ APPLY TO THIS DWG.

PART NUMBER
AND ALL OTHER MARKINGS
IN REGION MARKED
USE BOTH SIDES IF NECESSARY

FILLET AND INSIDE CORNER
RADII TOLERANCES
.0100 TO .0620 ± .010
.0630 TO .0100 ± .015
OVER .2500 ± .030 ✓

DEPTH SHOWN FOR TAPPED
HOLES IS FULL THDS. 2-3 IMP THDS.
BEYOND PERMISSIBLE.

EXTERNAL THREAD LENGTH
SHOWN INCLUDES
2 IMPERFECT THREADS MAX.

DO NOT CADMIUM PLATE & PAINT
HOLES OR SURFACES MARKED
WITH DOUBLE ASTERISK.

MISMATCH STEP OF ± .010
PERMISSIBLE DUE TO CHANGE
OF CUTTERS AT INSIDE
INTERSECTING SURFACES. ✓

DIAMETERS MARKED
MUST BE CONCENTRIC WITHIN
FULL INDICATOR
READING

HOLES MUST BE KEPT FREE OF
CHROME PLATING SOLUTION.

ALL DIMENSIONS SHOWN TO BE MET
AFTER CADMIUM PLATING.
THICKNESS OF PLATE .0003 MIN.
TO .0005 MAX. MIN. THICKNESS TO
BE .0001 ON THREADED AREAS.
NO ALLOWANCE FOR PLATING IN
HOLES

SURFACE ROUGHNESS
INCLUDING MACHINED HOLES
PER MIL-STD-10

FOR ALL DRILLED HOLES

REMOVE ALL BURRS.
BREAK ALL EDGES .005-.015 ✓

INSPECTION INFORMATION
MINIMUM PERMISSIBLE
AVERAGE EDGE DISTANCE
MARKED IS

SYMBOL DENOTES SURFACE
TO BE MACHINED

UNLESS OTHERWISE SPECIFIED
TOLERANCE ON FLANGES IS ± 1/32

LENGTHS OF AN, MS & GN AL ALY
RIVETS SHORTER THAN 1 INCH FOR
NOT SPECIFIED.

TOLERANCE ON LOFTED
DELINEATIONS IS

NOTES:
1 OUTSIDE RADIUS ON CORNERS OPTIONAL

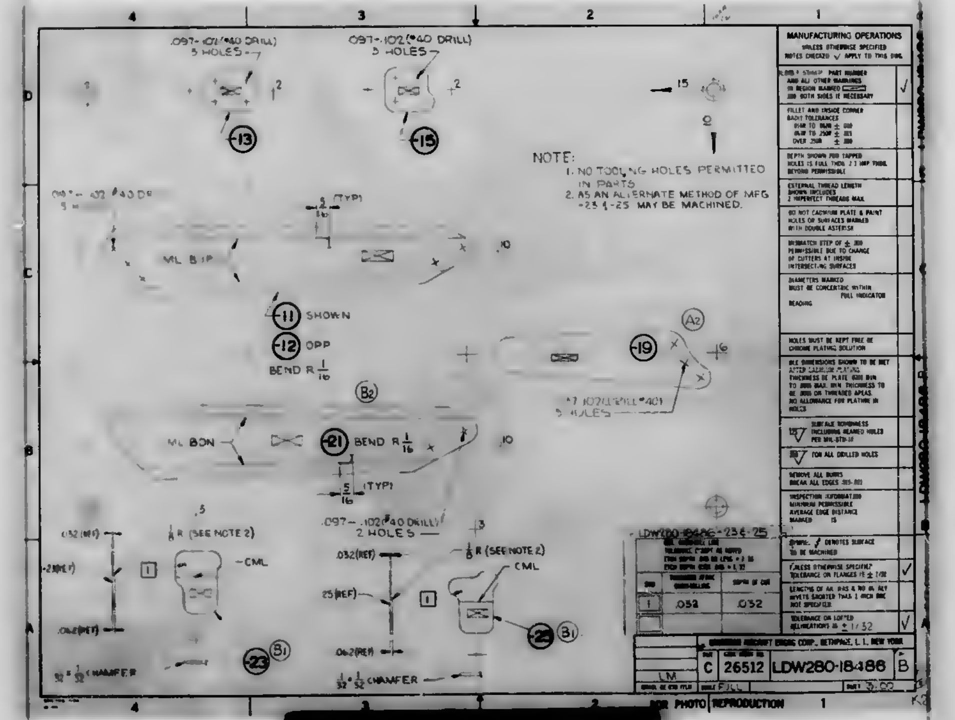
LAYOUT RELEASE—MAY BE REDRAWN ON PRODUCTION FORMAT.

03/03

NAS 9-1100

GRUMMAN AIRCRAFT ENG. CORP., BETHPAGE, L.I., NEW YORK
LM
K
26512
LDW280-18482
SCALE FULL
SHEET 3 OO

LDW280-18482



.097-.102(#40 DRILL)
3 HOLES
.097-.102(#40 DRILL)
3 HOLES
-13
-15
.15
ML BTP
5/16 (TYP)
.10
-11 SHOWN
-12 OPP
BEND R 1/16
B2
-19
A2
.16
.097-.102(#40 DRILL)
3 HOLES
ML BON
-21 BEND R 1/16
.10
5/16 (TYP)
.097-.102(#40 DRILL)
2 HOLES
.5
1/8 R (SEE NOTE 2)
CML
.032(REF)
.25(REF)
.062(REF)
1/8 R (SEE NOTE 2)
CML
-23
B1
-25
B1
1/32 x 1/32 CHAMFER
1/32 x 1/32 CHAMFER
4
3
2
1
D
C
B
A

NOTE:
1. NO TOOLING HOLES PERMITTED IN PARTS
2. AS AN ALTERNATE METHOD OF MFG -23 & -25 MAY BE MACHINED.

MANUFACTURING OPERATIONS
UNLESS OTHERWISE SPECIFIED
NOTES CHECKED ✓ APPLY TO THIS DWG

STAMP PART NUMBER AND ALL OTHER MARKINGS IN REGION MARKED AND BOTH SIDES IF NECESSARY	✓
FILLET AND INSIDE CORNER RADII TOLERANCES	
DEPTH SHOWN FOR TAPPED HOLES IS FULL THDS BEYOND PERMISSIBLE	
EXTERNAL THREAD LENGTH SHOWN INCLUDES 2 IMPERFECT THREADS MAX	
DO NOT CADMIUM PLATE & PAINT HOLES OR SURFACES MARKED WITH DOUBLE ASTERISK	
MISMATCH STEP OF ± PERMISSIBLE DUE TO CHANGE OF CUTTERS AT INSIDE INTERSECTING SURFACES	
DIAMETERS MARKED MUST BE CONCENTRIC WITHIN FULL INDICATOR READING	
HOLES MUST BE KEPT FREE OF CHROME PLATING SOLUTION	
ALL DIMENSIONS SHOWN TO BE MET AFTER CADMIUM PLATING. NO ALLOWANCE FOR PLATING IN HOLES	
SURFACE ROUGHNESS INCLUDING REAMED HOLES PER MIL-STD-10	
FOR ALL DRILLED HOLES	
REMOVE ALL BURRS BREAK ALL EDGES	
INSPECTION INFORMATION MINIMUM PERMISSIBLE AVERAGE EDGE DISTANCE MARKED	
SYMBOL ∮ DENOTES SURFACE TO BE MACHINED	
UNLESS OTHERWISE SPECIFIED TOLERANCE ON FLANGES IS ± 1/32	✓
LENGTHS OF ALL RIVETS SHORTER THAN 1 INCH NOT SPECIFIED	
TOLERANCE ON LOFTED DELINEATIONS IS ± 1/32	✓

LDW280-18486-23 & -25

	[illegible]	[illegible]
1	.052	.032

GRUMMAN AIRCRAFT ENGRG CORP., BETHPAGE, L. I., NEW YORK

SIZE	CODE IDENT NO.		
C	26512	LDW280-18486	B

LM
SCALE FULL
SHEET 3 OF 00

FOR PHOTO REPRODUCTION

K2

01

NAS 9-1180

LDW280-18487

MODEL OF END ITEM	NEXT ASSY	MODULE OR SER NO	REQD PER MODULE OF END ITEM
LM	LDW280-54575	DVT (70)	
		LM-15(45)	
		LM-14(44)	
		LM-13(43)	
		LM-12(42)	
		LM-11(41)	
		LM-10(40)	
		LM-9(39)	
		LM-8(38)	
		LM-7(37)	
		LM-6(36)	
		LM-5(35)	
LM	LDW280-54575	LM-4(34)	

PART NO LDW280-18487-1

WORK PKG FUNCTION NO-110

SH REV STATUS FOR DESCRIPTION OF REV SEE SUBQ SH

SHEET	01		02 03	
REV				
SHEET				
REV				
SHEET				
REV				

LAST SECT LTR USED

LAST DASH NO USED -11

GRUMMAN REL INFO

PRIM NO 207 LC

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCE UNLESS SPECIFIED
FRACTIONS - DECIMALS - ANGLES
± 1/32 ± .020 ± 2°

DETAIL SPEC REQUIREMENT

CLASS I ENGRG CHANGE

CLASS II ENGRG CHANGE ✓

LCD 1433 CCA 586

CONTRACT NO NAS9-1100

LINE ITEM

DOCUMENTATION TYPE III

DRAWN BY HERB SCHWETERMAN REL ANAL

LAYOUT BY G.S. KINSMAN

CHECKED BY

STRUCTURES

WEIGHTS

PROJ ENGR

REL GROUP

GRUMMAN AIRCRAFT ENGRG CORP
BETHPAGE, L. I., NEW YORK

GUSSET
DESCENT STAGE - QUAD II - UPPER DECK - BOOM SPT BEAM - RH END

SIZE B

CODE IDENT NO 26512

LDW280-18487

SCALE NONE

SHEET 1 OF 3

CDR 4-12-68

01

NAS 9-1100

QTY PER ASSEMBLY	CODE IDENT	PART NO.	UNIT	NOMENCLATURE OR DESCRIPTION	MATERIAL	GOVT SPEC	GAEC SPEC	STOCK SIZE	PROCESS SYM	FINISH NO.	ZONE
		LDW280-18487-[illegible]	[illegible]	GUSSET	AL ALY SH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC
						[illegible]	ANODIZE	[illegible]
						[illegible]	[illegible]	[illegible]

I.&T: CERTIFICATION AND TRACEABILITY IN ACCORDANCE WITH [illegible]

GRUMMAN AIRCRAFT ENG'G CORP. BETHPAGE L. I. NEW YORK

SIZE B

CODE IDENT NO. 26512

LDW280-18487

SCALE NONE

SHEET [illegible]

01

NAS 9-1100

LDW280-18489

MODEL OR END ITEM	NEXT ASSY	MODULE OR SER NO.	REQD PER MODULE OR END ITEM
LM	LDW280-54679	DESIGN VERIFICATION TEST (70)	2
		LM-15(45)	2
		LM-14(44)	2
		LM-13(43)	2
		LM-12(42)	2
		LM-11(41)	2
		LM-10(40)	2
		LM-9(39)	2
		LM-8(38)	2
		LM-7(37)	2
		LM-6(36)	2
		LM-5(35)	2
LM	LDW280-54679	LM-4(34)	2
PART NO. LDW280-18489-15		GAEC SCH NO.	

MODEL OR END ITEM	NEXT ASSY	MODULE OR SER NO.	REQD PER MODULE OR END ITEM
LM	LDW280-54679	DESIGN VERIFICATION TEST (70)	1 EA
		LM-15(45)	1 EA
		LM-14(44)	1 EA
		LM-13(43)	1 EA
		LM-12(42)	1 EA
		LM-11(41)	1 EA
		LM-10(40)	1 EA
		LM-9(39)	1 EA
		LM-8(38)	1 EA
		LM-7(37)	1 EA
		LM-6(36)	1 EA
		LM-5(35)	1 EA
LM	LDW280-54679	LM-4(34)	1 EA
PART NO. LDW280-18489-1, -3, -7, -13 & -19		GAEC SCH NO. 51	

MODEL OR END ITEM	NEXT ASSY	MODULE OR SER NO.	REQD PER MODULE OR END ITEM
PART NO.		GAEC SCH NO.	

WORK PKG FUNCTION NO 111

SH REV STATUS: FOR DESCRIPTION OF REV SEE SUBQ SH

SHEET	1.00		2.00	3.00					
REV									
SHEET									
REV									
SHEET									
REV									

LAST SECT LTR USED

LAST DASH NO. USED - 9

GRUMMAN REL INFO

PRIM NO.			
207			

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.

TOLERANCE UNLESS SPECIFIED FRACTIONS - DECIMALS - ANGLES ±1/32 ±.030 ±1/2°

G ORIG DWG AUTH

DETAIL SPEC REQUIREMENT

CLASS II ENGRG CHANGE

CLASS I ENGRG CHANGE ✓

LCD1435 CCA586

CONTRACT NO. NAS 9-1100

LINE ITEM

DOCUMENTATION TYPE II

DRAWN BY	G. ZARCADOOLAS	RELIABILITY	
LAYOUT BY	G. HANSMANN		
CHECKED BY	J. Bell 1-3-68		
GP LEADER	[illegible] 1/4/68		
V-DESIGN			
STRUCTURES	[illegible] 1/5/68	PROJ ENGR	[illegible] 1/4/68
STRUCTURES	[illegible] 1/5/68	REL GROUP	[illegible]
WEIGHTS			

GRUMMAN AIRCRAFT ENGRG CORP
BETHPAGE L. I. NEW YORK

CHANNEL
DESCENT STAGE-SCIENTIFIC EQUIP BAY
UPPER DECK-CABLE BRACKET SPT

SIZE	CODE IDENT NO.	
B	26512	LDW280-18489
SCALE NONE		SHEET 1.00 OF 3

ENG 77 1 12-66

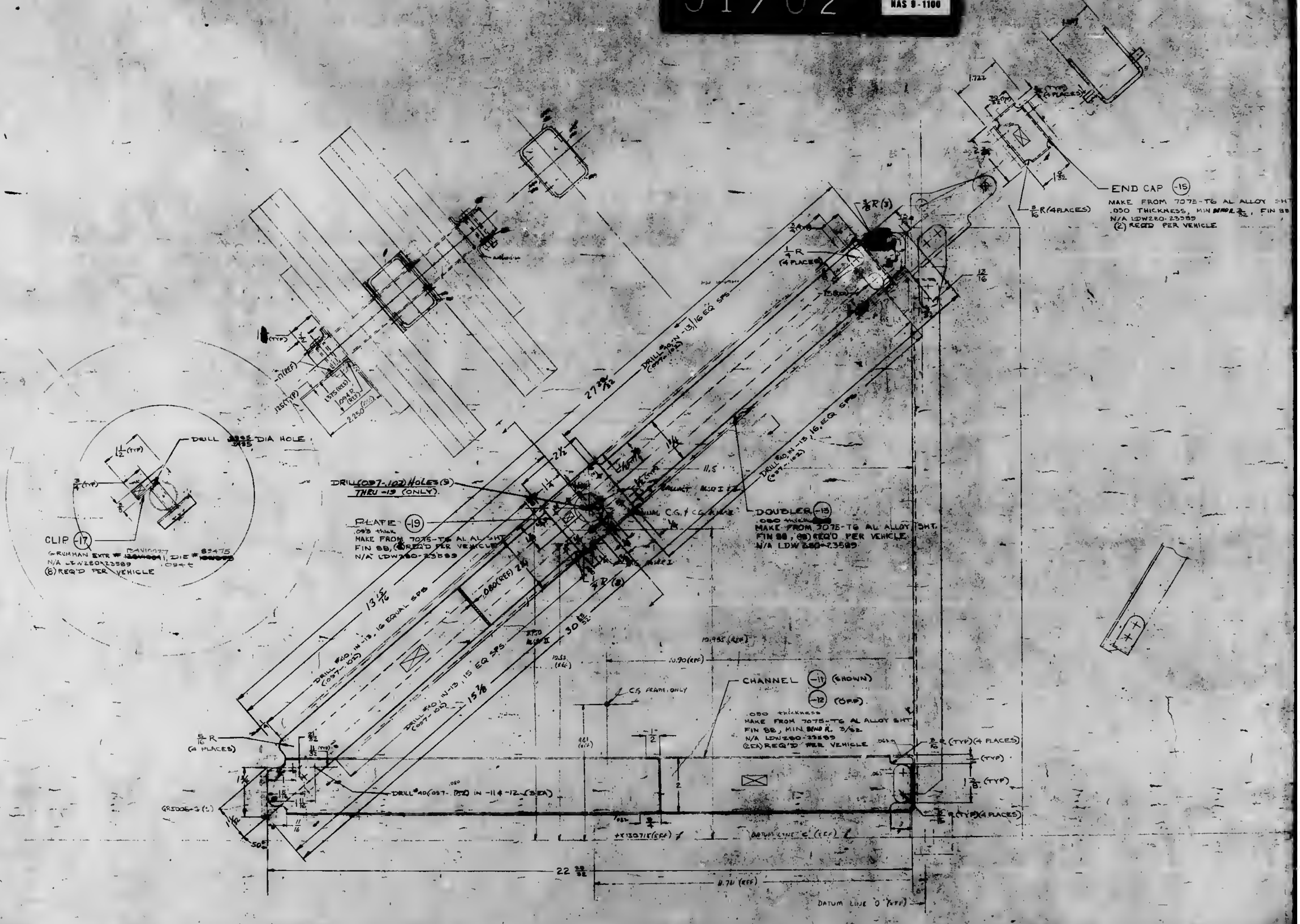
CJR 12-29-67

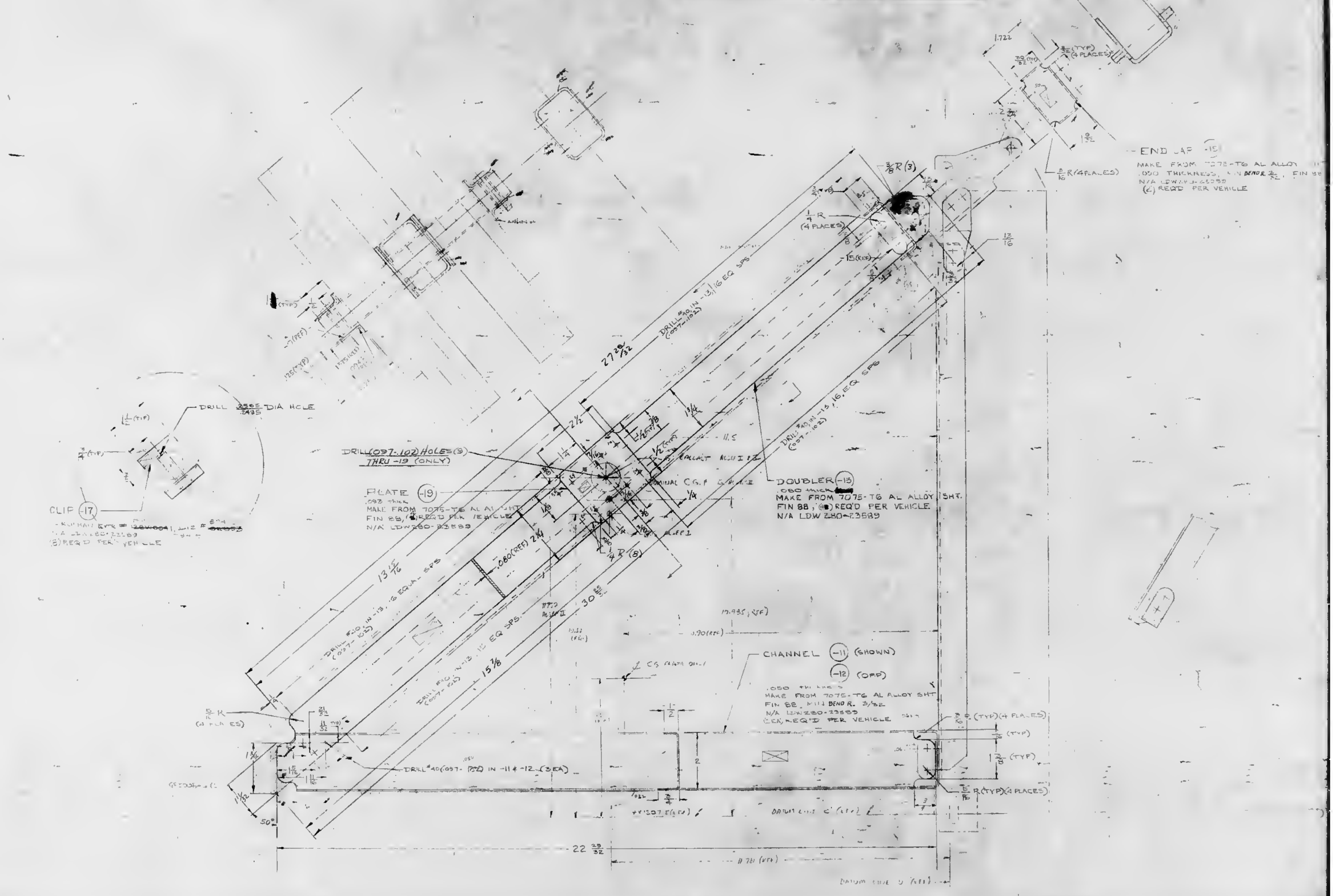
01

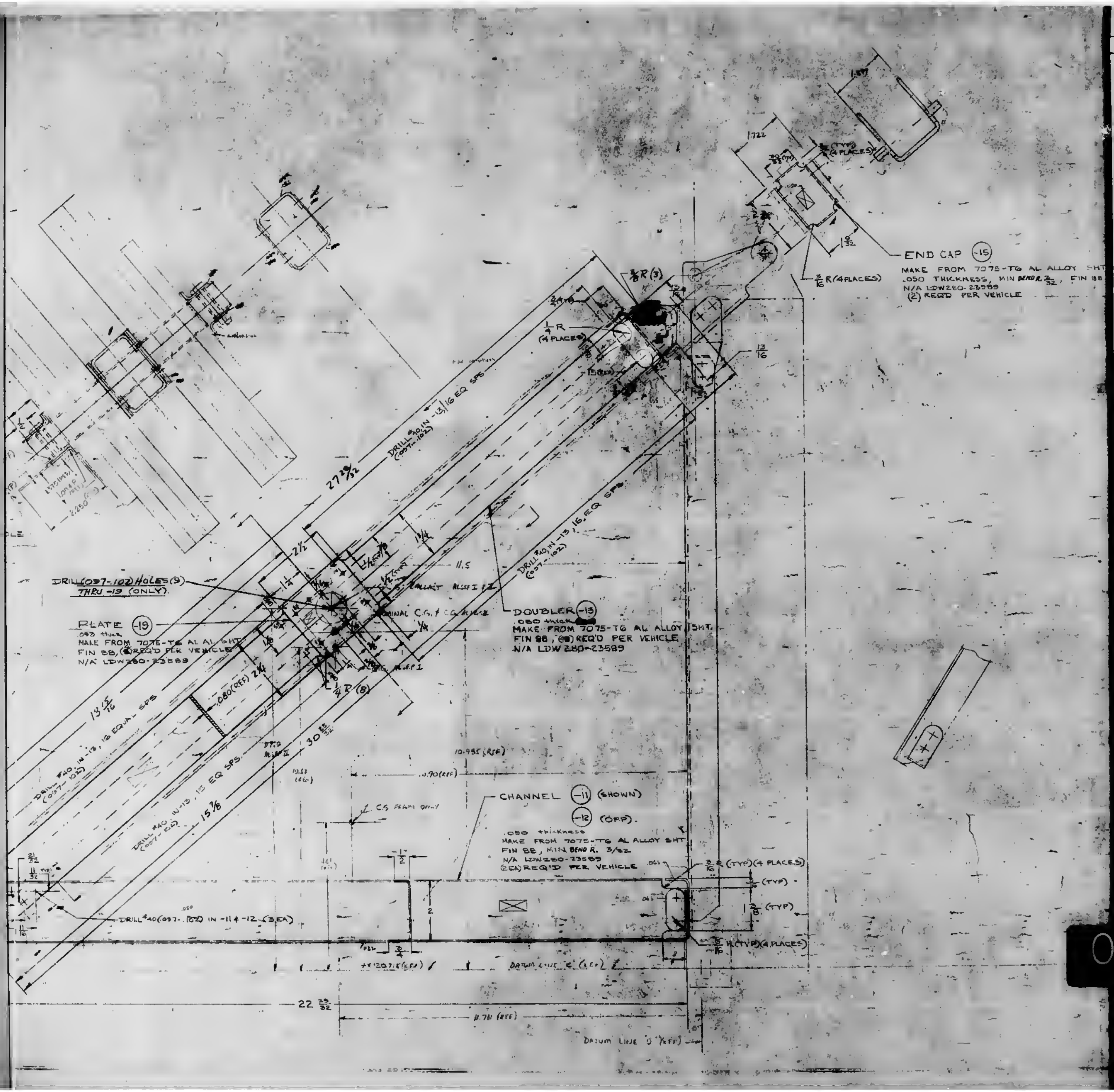
NAS 9-1100

01/02

NAS 9-1100


END CAP (-15)
MAKE FROM 7075-T6 AL ALLOY SHT
.050 THICKNESS, MIN BEND R 3/32, FIN 88
N/A LDW280-23589
(2) REQD PER VEHICLE
3/16 R (4 PLACES)
1.722
3/8 R (3)
1/4 R (4 PLACES)
12/16
27 29/32
DRILL #40, IN -13, 16 EQ SPS
(.097-.102)
2 1/2
1 1/4
11.5
DRILL (.097-.102) HOLES (9)
THRU -19 (ONLY).
PLATE (-19)
.093 thick
MAKE FROM 7075-T6 AL AL SHT
FIN 88, (2) REQ'D PER VEHICLE
N/A LDW280-23589
DOUBLER (-13)
.080 thick
MAKE FROM 7075-T6 AL ALLOY SHT.
FIN 88, (8) REQ'D PER VEHICLE
N/A LDW 280-23589
C.G. / C.G. FRAME
.080 (REF)
13 15/16
DRILL #40, IN -13, 16 EQUAL SPS
(.097-.102)
30 13/32
DRILL #40, IN -13, 15 EQ SPS
(.097-.102)
15 3/8
DRILL .2895/.2935 DIA HOLE
1 1/2 (TYP)
3/4 (TYP)
3/8
CLIP (-17)
GRUMMAN EXTR # ~~[illegible]~~ RAN10077, DIE # ~~[illegible]~~ 83475
N/A LDW280-23589 .094 t
(8) REQ'D PER VEHICLE
.125 (TYP)
.17 (REF)
1.375 (REF)
.094 R (REF)
2.250
10.995 (REF)
10.90 (REF)
C.G. FRAME ONLY
CHANNEL (-11) (SHOWN)
(-12) (OPP)
.050 thickness
MAKE FROM 7075-T6 AL ALLOY SHT
FIN 88, MIN BEND R. 3/32
N/A LDW280-23589
(2EA) REQ'D PER VEHICLE
3/16 R (TYP) (4 PLACES)
(TYP)
1 3/8 (TYP)
R (TYP) (4 PLACES)
5/16 R (4 PLACES)
3/32
11/32
DRILL #40 (.097-.102) IN -11 & -12 (3 EA)
GR5006-3 (1)
1 1/2
11/16
50°
1/2
2
22 29/32
11.711 (REF)
DATUM LINE 'C' (REF)
DATUM LINE 'O' (REF)


END CAP (-15)
MAKE FROM 7075-T6 AL ALLOY
.050 THICKNESS, MIN BEND R. 3/32, FIN 88
N/A LDW280-23589
(2) REQD PER VEHICLE
3/8 R (3)
1/4 R (4 PLACES)
1/16 R (4 PLACES)
1.722
1.847
13/16
-15 (REF)
27 23/32
DRILL #40 IN -13, 16 EQ SPS (097-102)
DRILL(097-102) HOLES (9) THRU -19 (ONLY)
PLATE (-19)
.093 thick
MAKE FROM 7075-T6 AL AL SHT
FIN 88, (4) REQ'D PER VEHICLE
N/A LDW280-23589
DOUBLER (-13)
.080 thick
MAKE FROM 7075-T6 AL ALLOY SHT.
FIN 88, REQ'D PER VEHICLE
N/A LDW 280-23589
2 1/2
1 1/4
1 3/4
11.5
1/2 (TYP)
NOMINAL C.G.
1/4 R (8)
.080 (REF) 2 1/4
13 15/16
DRILL #40 IN -13, 16 EQUAL SPS (097-102)
DRILL #40 IN -13, 16 EQ SPS (097-102)
15 3/8
30 25/32
19.935 (REF)
DRILL .2505/.2495 DIA HOLE
1 1/2 (TYP)
3/4 (TYP)
CLIP (-17)
(8) REQ'D PER VEHICLE
CHANNEL (-11) (SHOWN)
(-12) (OPP)
.050 THICKNESS
MAKE FROM 7075-T6 AL ALLOY SHT
FIN 88, MIN BEND R. 3/32
N/A LDW280-23589
(EA) REQ'D PER VEHICLE
3/16 R (TYP)(4 PLACES)
(TYP)
1 3/8 (TYP)
5/16 R (TYP)(4 PLACES)
5/16 R (4 PLACES)
DRILL #40 (097-102) IN -11 & -12 (3 EA)
50°
2
1/2
3/4
22 29/32
11.781 (REF)
DATUM LINE C (REF)
DATUM LINE D (REF)


END CAP (-15)
MAKE FROM 7075-T6 AL ALLOY SHT
.050 THICKNESS, MIN BEND R. 3/32, FIN 88
N/A LDW280-23589
(2) REQ'D PER VEHICLE
3/16 R (4 PLACES)
3/8 R (3)
1/4 R (4 PLACES)
1.722
12/16
DRILL #40, IN -13, 16 EQ SPS (.097-.102)
27 23/32
DRILL (.097-.102) HOLES (9) THRU -19 (ONLY)
PLATE (-19)
.093 thick
MAKE FROM 7075-T6 AL ALLOY SHT
FIN 88, (2) REQ'D PER VEHICLE
N/A LDW280-23589
DOUBLER (-13)
.080 thick
MAKE FROM 7075-T6 AL ALLOY SHT.
FIN 88, (2) REQ'D PER VEHICLE
N/A LDW 280-23589
NOMINAL C.G. & C.G. HOLE
11.5
2 1/2
.080 (REF)
1/4 R (8)
13 15/16
DRILL #40, IN -13, 16 EQUAL SPS (.097-.102)
DRILL #40 IN -13, 15 EQ SPS. (.097-.102)
30 13/32
15 7/8
10.985 (REF)
10.90 (REF)
C.G. FRAME ONLY
CHANNEL (-11) (SHOWN)
(-12) (OPP).
.050 thickness
MAKE FROM 7075-T6 AL ALLOY SHT
FIN 88, MIN BEND R. 3/32
N/A LDW280-23589
(2 EA) REQ'D PER VEHICLE
3/16 R (TYP) (4 PLACES)
(TYP)
1 3/8 (TYP)
3/16 R (TYP) (4 PLACES)
DRILL #40 (.097-.102) IN -11 & -12 (3 EA)
2
1/2
3/4
DATUM LINE 'E' (REF)
22 23/32
11.781 (REF)
DATUM LINE 'D' (REF)

3. NO TOOLING HOLES PERMITTED IN PARTS

FORMAT

MANUFACTURING OPERATIONS UNLESS OTHERWISE SPECIFIED NOTES CHECKED ✓ APPLY TO THIS DWG.	
RUBBER STAMP PART NUMBER AND ALL OTHER MARKINGS IN REGION MARKED ▭ USE BOTH SIDES IF NECESSARY.	✓
FILLET AND INSIDE CORNER RADII TOLERANCES .016R TO .062R ± .010 .063R TO .250R ± .015 OVER .250R ± .030	
DEPTH SHOWN FOR TAPPED HOLES IS FULL THDS. 2-3 IMP THDS. BEYOND PERMISSIBLE.	
EXTERNAL THREAD LENGTH SHOWN INCLUDES 2 IMPERFECT THREADS MAX.	
DO NOT CADMIUM PLATE & PAINT HOLES OR SURFACES MARKED WITH DOUBLE ASTERISK.	
MISMATCH STEP OF ± .005 PERMISSIBLE DUE TO CHANGE OF CUTTERS AT INSIDE INTERSECTING SURFACES.	
DIAMETERS MARKED MUST BE CONCENTRIC WITHIN FULL INDICATOR READING	
HOLES MUST BE KEPT FREE OF CHROME PLATING SOLUTION.	
ALL DIMENSIONS SHOWN TO BE MET AFTER CADMIUM PLATING. THICKNESS OF PLATE .0003 MIN. TO .0005 MAX. MIN. THICKNESS TO BE .0002 ON THREADED AREAS. NO ALLOWANCE FOR PLATING IN HOLES	
125 √ SURFACE ROUGHNESS INCLUDING REAMED HOLES PER MIL-STD-10	
250 √ FOR ALL DRILLED HOLES	
REMOVE ALL BURRS. BREAK ALL EDGES .005-.031	✓
INSPECTION INFORMATION MINIMUM PERMISSIBLE AVERAGE EDGE DISTANCE MARKED IS	
SYMBOL ƒ DENOTES SURFACE TO BE MACHINED	
UNLESS OTHERWISE SPECIFIED TOLERANCE ON FLANGES IS ± 1/32	
LENGTHS OF AN, NAS & MS AL ALY RIVETS SHORTER THAN 1 INCH ARE NOT SPECIFIED.	
TOLERANCE ON LOFTED DELINEATIONS IS	

DWG SIZE 40 X

PRINTING INFO ONLY

LDW280-18496

02/02

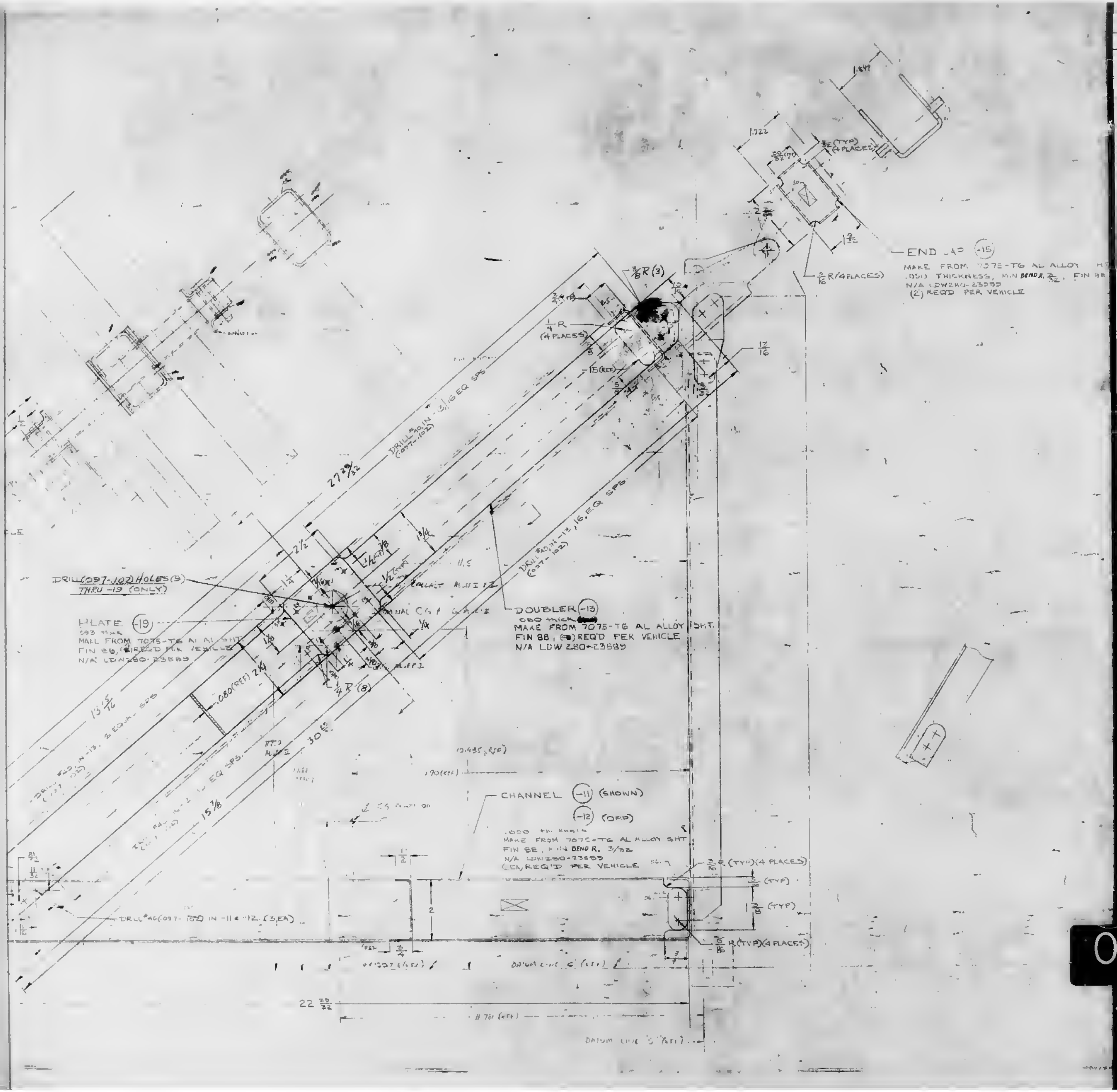
NAS 9-1100

GRUMMAN AIRCRAFT ENGRG CORP., BETHPAGE, L. I., NEW YORK

SIZE	CODE IDENT NO.	
K	26512	LD[illegible]-18496

MODEL OR END ITEM

SHEET 3


END CAP (-15)
MAKE FROM 7075-T6 AL ALLOY
.050 THICKNESS, MIN BEND R. 3/32, FIN 88
N/A LDW280-23589
(2) REQD PER VEHICLE
3/16 R (4 PLACES)
3/8 R (3)
1/4 R (4 PLACES)
1.847
1.722
3/32 (TYP) (4 PLACES)
1 3/32
27 29/32
DRILL #40 IN -13, 16 EQ SPS (.097-.102)
DRILL(.097-.102) HOLES(9) THRU -19 (ONLY)
PLATE (-19)
MAKE FROM 7075-T6 AL AL SHT
FIN 88, REQ'D PER VEHICLE
N/A LDW280-23589
.080(REF) 2 1/4
1/4 R (8)
13 15/16
30 5/8
15 7/8
DOUBLER (-13)
.080 thick
MAKE FROM 7075-T6 AL ALLOY SHT.
FIN 88, REQ'D PER VEHICLE
N/A LDW 280-23589
CHANNEL (-11) (SHOWN)
(-12) (OPP)
MAKE FROM 7075-T6 AL ALLOY SHT
FIN 88, MIN BEND R. 3/32
N/A LDW280-23589
REQ'D PER VEHICLE
3/16 R (TYP) (4 PLACES)
5/16 R (TYP) (4 PLACES)
1 3/8 (TYP)
DRILL #40 (.097-.102) IN -11 & -12 (3 EA)
22 23/32
DATUM LINE C (REF)
13.935 (REF)
17/16

MANUFACTURING OPERATIONS
UNLESS OTHERWISE SPECIFIED
NOTES CHECKED ✓ APPLY TO THIS DWG.

RUBBER STAMP PART NUMBER AND ALL OTHER MARKINGS IN REGION MARKED ▭ USE BOTH SIDES IF NECESSARY	✓
FILLET AND INSIDE CORNER RADII TOLERANCES .016R TO .062R ± .010 .063R TO .250R ± .015 OVER .250R ± .030	
DEPTH SHOWN FOR TAPPED HOLES IS FULL THDS. 2-3 IMP THDS. BEYOND PERMISSIBLE.	
EXTERNAL THREAD LENGTH SHOWN INCLUDES 2 IMPERFECT THREADS MAX.	
DO NOT CADMIUM PLATE & PAINT HOLES OR SURFACES MARKED WITH DOUBLE ASTERISK.	
MISMATCH STEP OF ± .005 PERMISSIBLE DUE TO CHANGE OF CUTTERS AT INSIDE INTERSECTING SURFACES.	
DIAMETERS MARKED MUST BE CONCENTRIC WITHIN FULL INDICATOR READING	
HOLES MUST BE KEPT FREE OF CHROME PLATING SOLUTION.	
ALL DIMENSIONS SHOWN TO BE MET AFTER CADMIUM PLATING. THICKNESS OF PLATE .0003 MIN. TO .0005 MAX. MIN. THICKNESS TO BE .0002 ON THREADED AREAS. NO ALLOWANCE FOR PLATING IN HOLES.	
125 SURFACE ROUGHNESS INCLUDING REAMED HOLES PER MIL-STD-10	
200 FOR ALL DRILLED HOLES	
REMOVE ALL BURRS. BREAK ALL EDGES .015-.031	✓
INSPECTION INFORMATION MINIMUM PERMISSIBLE AVERAGE EDGE DISTANCE MARKED IS	
SYMBOL ƒ DENOTES SURFACE TO BE MACHINED	
UNLESS OTHERWISE SPECIFIED TOLERANCE ON FLANGES IS ± 1/32	
LENGTHS OF ALL NAS & MS AL ALY RIVETS SHORTER THAN 1 INCH ARE NOT SPECIFIED.	
TOLERANCE ON LOFTED DELINEATIONS IS	

DWG SIZE 40 K

PRINTING INFO ONLY

3. NO TOOLING HOLES PERMITTED IN PARTS

02/02

NAS 9-1100

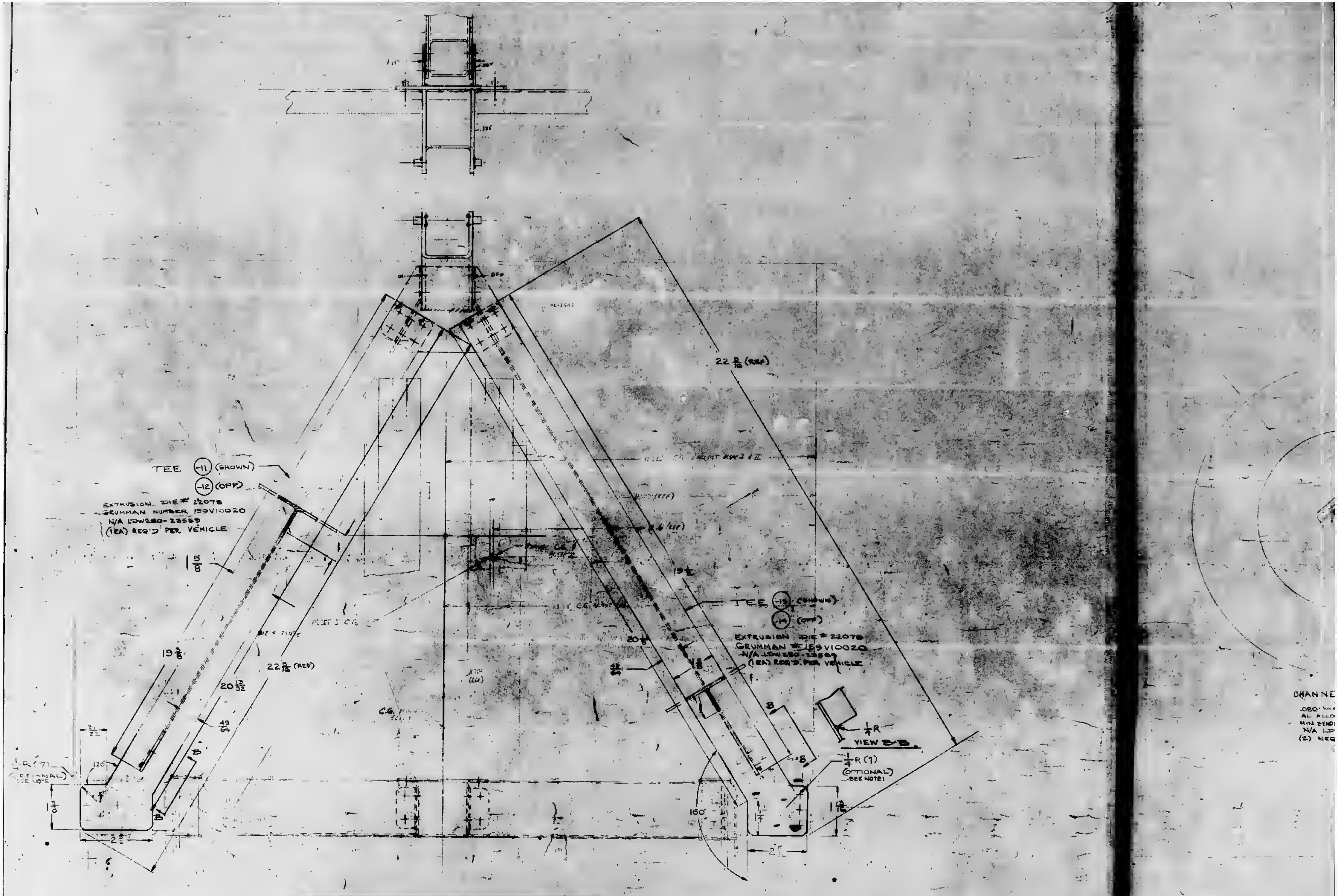
GRUMMAN AIRCRAFT ENGRG CORP., BETHPAGE, L. I., NEW YORK

SIZE	CODE IDENT NO.	
K	26512	L-

MODEL OR ENG ITEM

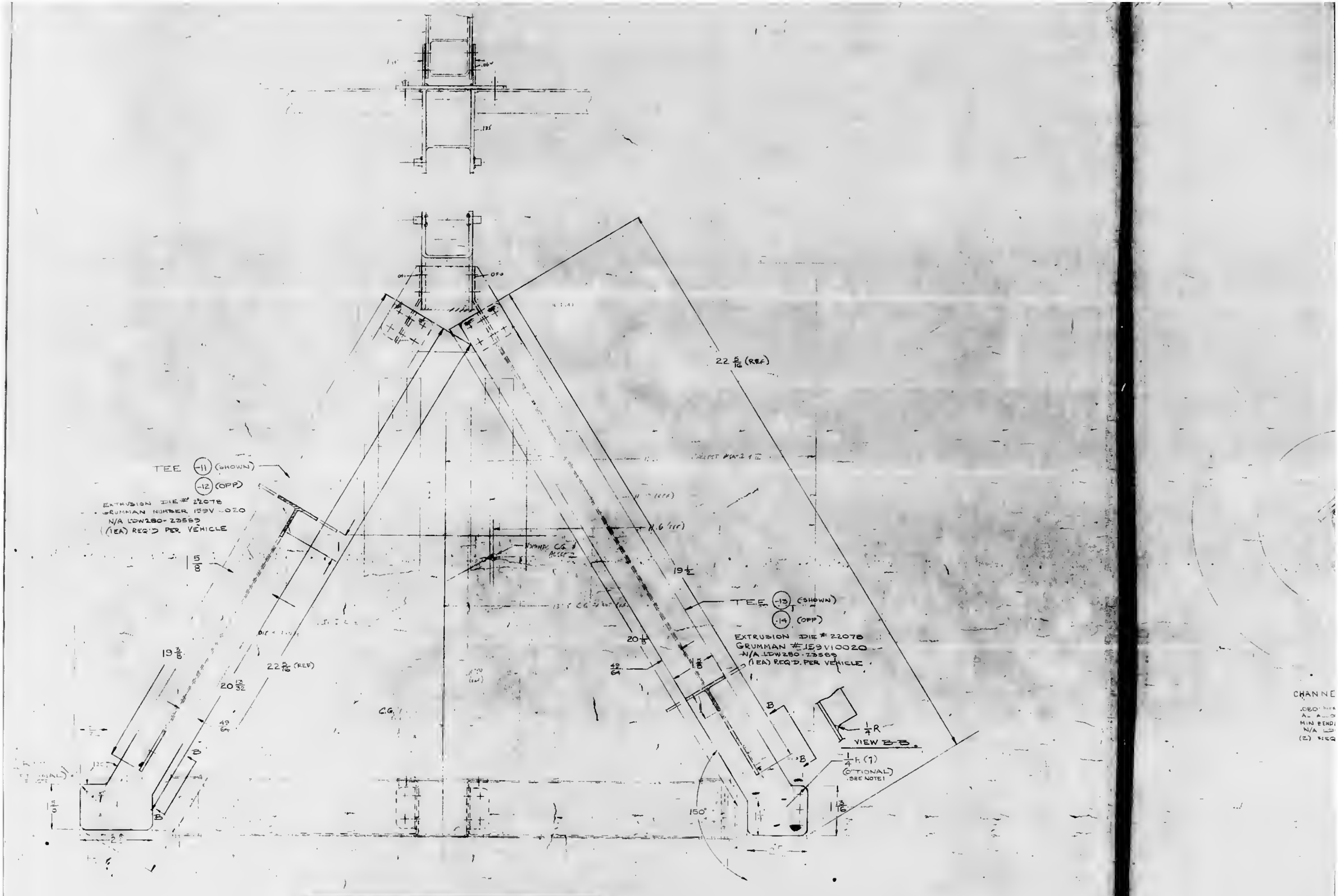
SCALE

SHEET 3

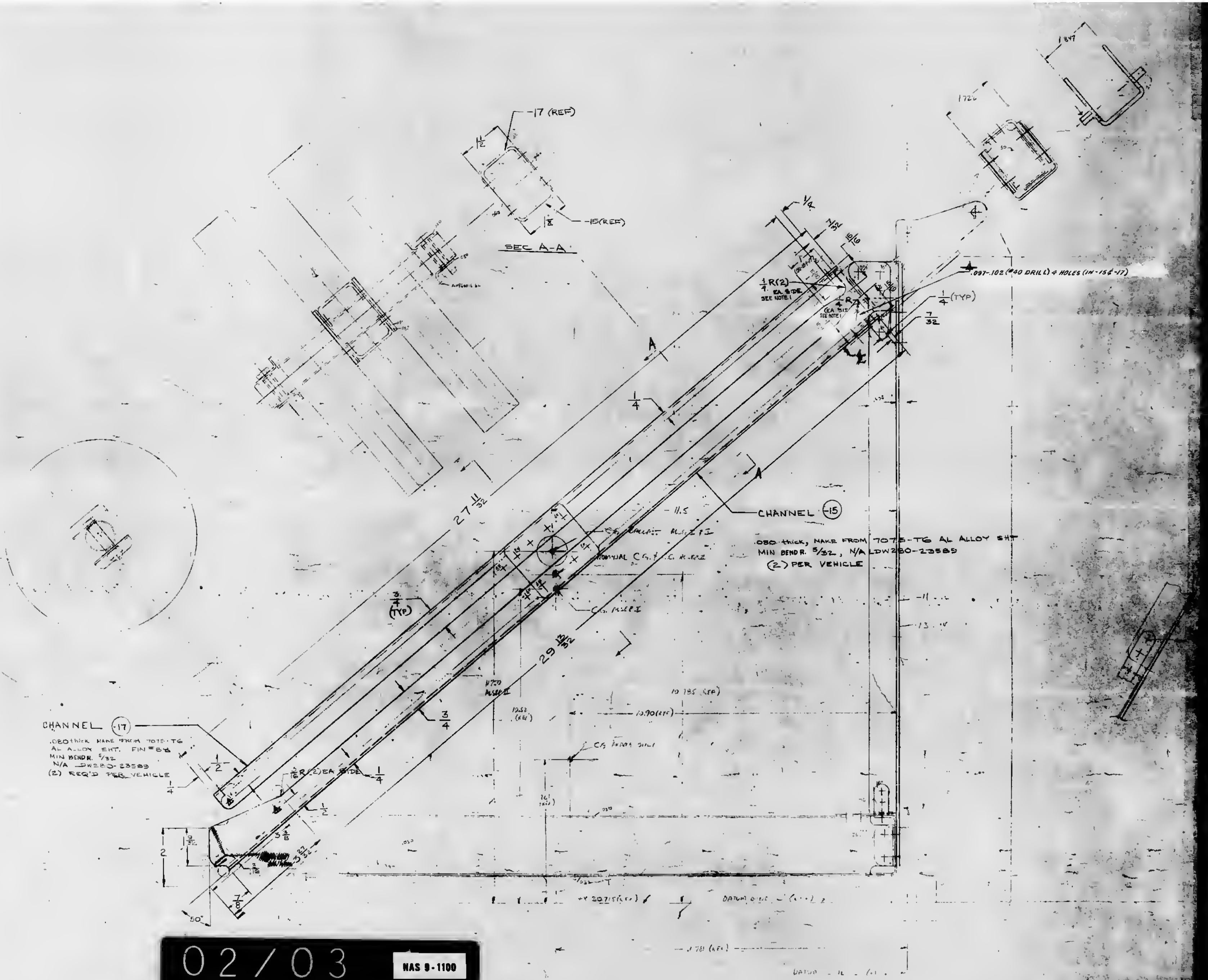

TEE -11 (SHOWN)
-12 (OPP)
EXTRUSION DIE # 22078
GRUMMAN NUMBER 159V10020
N/A LDW280-23589
(1EA) REQ'D PER VEHICLE
1 5/8
19 3/8
20 13/32
22 5/16 (REF)
49/64
B
B
120°
1/4 R (7)
(OPTIONAL)
SEE NOTE
22 5/16 (REF)
TEE -13 (SHOWN)
-14 (OPP)
EXTRUSION DIE # 22078
GRUMMAN # 159V10020
N/A LDW280-23589
(1EA) REQ'D PER VEHICLE
1/4 R
VIEW B-B
1/4 R (1)
(OPTIONAL)
SEE NOTE 1
150°
1 1/4
1 13/16
CHANNE
.080"
AL ALLO
MIN BEND
N/A LD
(2) REQ

01/0

NAS 9-1100


TEE (-11) (SHOWN)
(-12) (OPP)
EXTRUSION DIE # 22078
GRUMMAN NUMBER 159V -020
N/A LDW280-23569
(1EA) REQ'D PER VEHICLE
1 5/8
19 3/8
20 13/32
22 5/16 (REF)
49/64
B
22 5/16 (REF)
19 1/2
TEE (-13) (SHOWN)
(-14) (OPP)
EXTRUSION DIE # 22078
GRUMMAN #159V10020
N/A LDW280-23569
(1EA) REQ'D. PER VEHICLE
20 1/8
49/64
1 5/8
B
B
1/4 R
VIEW B-B
1/4 R (7)
(OPTIONAL)
SEE NOTE 1
1 13/16
150°
C.G.
CHANNE

01/03
NAS 9-1100


-17 (REF)
$1\frac{1}{2}$
$\frac{1}{8}$
-15(REF)
SEC A-A
A
A
$\frac{1}{4}$
$\frac{7}{32}$
$\frac{15}{16}$
$\frac{1}{4}$R(2) EA SIDE SEE NOTE 1
$\frac{1}{4}$R (EA SIDE) SEE NOTE 1
.097-.102 (#40 DRILL) 4 HOLES (IN -15 & -17)
$\frac{1}{4}$(TYP)
$\frac{7}{32}$
.847
.726
$\frac{1}{4}$
$27\frac{11}{32}$
11.5
CHANNEL -15
.080 thick, MAKE FROM 7075-T6 AL ALLOY SHT
MIN BEND R. 5/32, N/A LDW280-23585
(2) PER VEHICLE
C.G. NOMINAL C.G. & C.G. ALLOWABLE
C.G. ALLOWABLE
$\frac{3}{4}$ (TYP)
$29\frac{13}{32}$
-11
-13.4
$\frac{3}{4}$
10.785 (REF)
10.90 (REF)
CHANNEL -17
.080 thick MAKE FROM 7075-T6
AL ALLOY SHT. FIN #B8
MIN BEND R. 5/32
N/A LDW280-23589
(2) REQ'D PER VEHICLE
$\frac{1}{2}$
$\frac{1}{4}$
$\frac{3}{16}$R(2) EA SIDE
$\frac{1}{4}$
$\frac{1}{2}$
$3\frac{3}{8}$
2
$1\frac{9}{32}$
$\frac{7}{8}$
50°
DATUM LINE
DATUM

02/03

NAS 9-1100

NOTE:

ALL OUTSIDE CORNER RA

2. ALL INFORMATION NOT RE

MANUFACTURE OF PART IS FOR

3. NO TOOLING HOLEL PERMITTED

LAYOUT RELEASE

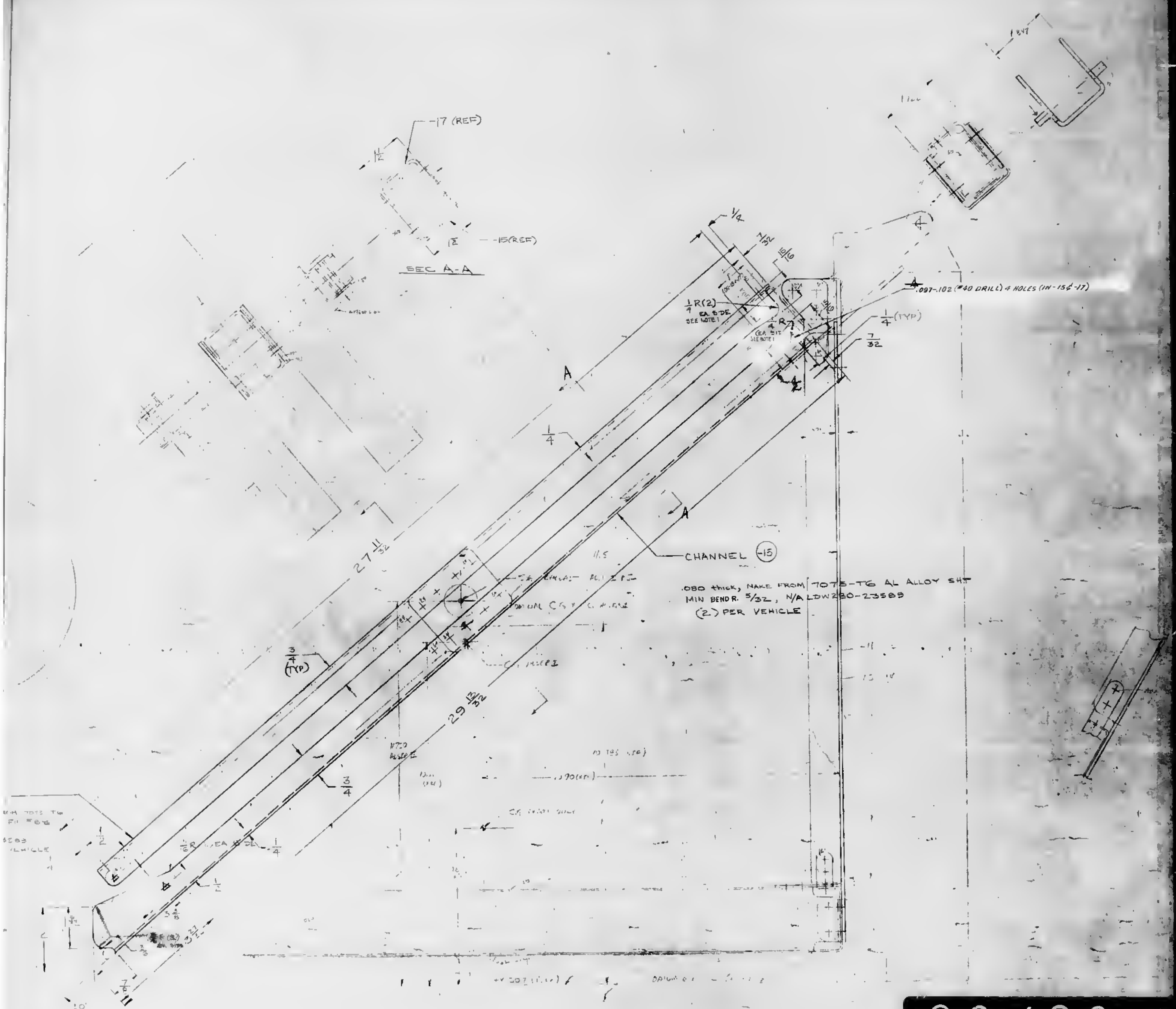
MAY ~~TO~~ BE REDRAWN ON

FORMAT

LM

26512

SCALE FULL


-17 (REF)
1/2
1 1/2
-15(REF)
SEC A-A
1/2
7/32
15/16
1/4 R(2) EA SIDE SEE NOTE 1
1/4 R (EA SIDE SEE NOTE 1)
.097-.102 (#40 DRILL) 4 HOLES (IN -15 & -17)
1/4 (TYP)
7/32
A
1/4
A
CHANNEL -15
27 11/32
.080 thick, MAKE FROM 7075-T6 AL ALLOY SHT
MIN BEND R. 5/32, N/A LDW280-23589
(2) PER VEHICLE
3/4 (TYP)
29 13/32
3/4
1/2
1/8 R EA SIDE
1/4
1/2
-11
-15
3/8
10°
11

MANUFACTURING OPERATIONS UNLESS OTHERWISE SPECIFIED NOTES CHECKED √ APPLY TO THIS DWG.	
RUBBER STAMP PART NUMBER AND ALL OTHER MARKINGS IN REGION MARKED ▭ USE BOTH SIDES IF NECESSARY.	✓
FILLET AND INSIDE CORNER RADII TOLERANCES .016R TO .062R ± .010 .063R TO .250R ± .015 OVER .250R ± .030	
DEPTH SHOWN FOR TAPPED HOLES IS FULL THDS. 2-3 IMP THDS. BEYOND PERMISSIBLE.	
EXTERNAL THREAD LENGTH SHOWN INCLUDES 2 IMPERFECT THREADS MAX.	
DO NOT CADMIUM PLATE & PAINT HOLES ON SURFACES MARKED WITH DOUBLE ASTERISK.	
MISMATCH STEP OF ± .005 PERMISSIBLE DUE TO CHANGE OF CUTTERS AT INSIDE INTERSECTING SURFACES	
DIAMETERS MARKED MUST BE CONCENTRIC WITHIN FULL INDICATOR READING	
HOLES MUST BE KEPT FREE OF CHROME PLATING SOLUTION.	
ALL DIMENSIONS SHOWN TO BE MET AFTER CADMIUM PLATING. THICKNESS OF PLATE .0003 MIN. TO .0005 MAX. MIN. THICKNESS TO BE .0002 ON THREADED AREAS. NO ALLOWANCE FOR PLATING IN HOLES	
125/ SURFACE ROUGHNESS INCLUDING REAMED HOLES PER MIL-STD-10	
250/ FOR ALL DRILLED HOLES	
REMOVE ALL BURRS. BREAK ALL EDGES .015-.031	
INSPECTION INFORMATION MINIMUM PERMISSIBLE AVERAGE EDGE DISTANCE MARKED IS	
SYMBOL ∮ DENOTES SURFACE TO BE MACHINED	
UNLESS OTHERWISE SPECIFIED TOLERANCE ON FLANGES IS ± 1/32	
LENGTHS OF AN, NAS & MS AL ALY RIVETS SHORTER THAN 1 INCH ARE NOT SPECIFIED.	
TOLERANCE ON LOFTED DELINEATIONS IS	

DWG SIZE 42 X

PRINTING INFO ONLY

FULL SIZE SHEET AREA (42 X 96) = 28 SQ FT.

1/2 SIZE SHEET AREA (1/4 OF FULL) = 7 SQ FT.

PRINT TRIM LINE

NOTE:

1. ALL OUTSIDE CORNER RADII OPTIONAL
2. ALL INFORMATION NOT REQ'D FOR MANUFACTURE OF PART IS FOR REF ONLY.
3. NO TOOLING HOLE PERMITTED IN PARTS.

LAYOUT RELEASE

MAY BE REDRAWN ON PRODUCTION FORMAT

LDW280-18497

03/03

NAS 9-1100

GRUMMAN AIRCRAFT ENGRG CORP., BETHPAGE, L.I., NEW YORK

LM	SIZE	CODE IDENT NO. 26512	LDW280-18497	
MODEL OR END ITEM	SCALE FULL		SHEET 3	

LDW280-18517

MODEL OR END ITEM	NEXT ASSY	MODULE OR SER NO GAEC SCH NO	REQD PER MODULE OR END ITEM
PART NO			

MODEL OR END ITEM	NEXT ASSY	MODULE OR SER NO GAEC SCH NO	REQD PER MODULE OR END ITEM
LM	~	QUAL TEST (72)	3
▲	LDW280-23595	LM-15(45)	3
	▲	LM-14(44)	3
		LM-13(43)	3
		LM-12(42)	3
		LM-11(41)	3
		LM-10(40)	3
		LM-9(39)	3
		LM-8(38)	3
▼		LM-7(37)	3
LM		LM-6(36)	3
LEM 107		LM-5(35)	3
LEM 107	▼	LM-4(34)	3
LEM 107	LDW280-23595	LM-3(33)	3
PART NO LDW280-18517-15			

MODEL OR END ITEM	NEXT ASSY	MODULE OR SER NO GAEC SCH NO	REQD PER MODULE OR END ITEM
LM	~	QUAL TEST (72)	1 EA
▲	LDW280-23595	LM-15(45)	1 EA
	▲	LM-14(44)	1 EA
		LM-13(43)	1 EA
		LM-12(42)	1 EA
		LM-11(41)	1 EA
		LM-10(40)	1 EA
		LM-9(39)	1 EA
		LM-8(38)	1 EA
▼		LM-7(37)	1 EA
LM		LM-6(36)	1 EA
LEM 107		LM-5(35)	1 EA
LEM 107	▼	LM-4(34)	1 EA
LEM 107	LDW280-23595	LM-3(33)	1 EA
PART NO LDW280-18517-11,13,-17 & -19			

WORK PACKAGE FUNCTION NO.111

SH REV STATUS FOR DESCRIPTION OF REV SEE SUBQ SH

SHEET	1.00		2.00	3.00					
REV									
SHEET									
REV									
SHEET									
REV									

LAST SECT LTR USED		GRUMMAN REL INFO		
LAST DASH NO USED	-9	PRIM NO 237	ICm MP-16	3-29-68

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCE UNLESS SPECIFIED FRACTIONS - DECIMALS - ANGLES
± 1/32 ±.020 ± 1/2°
U ORIG DWG AUTH
DETAIL SPEC REQUIREMENT
CLASS II ENGRG CHANGE
CLASS I ENGRG CHANGE ✓
LCD 2567 PCG #2

CONTRACT NO NAS 9-1100		LINE ITEM	DOCUMENTATION TYPE II
DRAWN BY	A. SCHMACTHE 3-14-68	RELIABILITY	
LAYOUT BY	L. ROGERS 3/15/68		
CHECKED BY	[illegible] 3-18-68		
GR LEADER	[illegible] 3/21/68		
VEH DES INT	[illegible]		
STRUCT	[illegible]	PROJ ENGR	L. Pasatin 3/22
STRUCT	[illegible] 3/22	REL GROUP	J. Faglaina
WEIGHTS			

GRUMMAN AIRCRAFT ENGRG CORP
BETHPAGE, L. I., NEW YORK

CHANNEL
DESCENT STAGE - O_2 & GLYCOL DISCONNECTS INTERSTAGE UMBILICAL SUPPORT

SIZE	CODE IDENT NO.	
B	26512	LDW280-18517
SCALE NONE		SHEET 1.00 OF 3

ENG 77 A 3-66

OK

C.D.R. 3-29-68

01

NAS 9-1100

QTY PER ASSEMBLY	CODE IDENT	PART NO.	LET	NOMENCLATURE OR DESCRIPTION	MATERIAL	GOVT SPEC	COML SPEC	STOCK SIZE	PROCESS SYM	FINISH NO.	ZONE
		LDW280-18517-9	E	CLIP	AL ALY SH	QQ-A-250/12	7075	.040 X 2 X 3	TG	55	
		LDW280-18517-7	E	CLIP	AL ALY SH	QQ-A-250/12	7075	.040 X 2 X 3	TG	55	
		LDW280-18517-5	E	CLIP	AL ALY SH	QQ-A-250/12	7075	.040 X 2 X 3	TG	55	
		LDW280-18517-3	E	CLIP	AL ALY SH	QQ-A-250/12	7075	.040 X 3 X 3	TG	55	
		LDW280-18517-1	E	CHANNEL	AL ALY SH	QQ-A-250/12	7075	.040 X 5 X 11	TG	55	

SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC
TG	AL HEAT TREAT	MIL-H-6088						
55	ANODIZE	LSP 4-5030						

I & T: IDENTIFICATION AND TRACEABILITY IN ACCORDANCE WITH :
NONE

GRUMMAN AIRCRAFT ENGRG CORP., BETHPAGE, L. I., NEW YORK

SIZE	CODE IDENT NO.	
B	26512	LDW280-18517

SCALE NONE SHEET 2 OF 2

01 NAS 9-1100

MODEL OF END ITEM	NEXT ASSY	MODULE OR SET NO.	REQD PER MODULE OF END ITEM
PART NO.			

MODEL OF END ITEM	NEXT ASSY	MODULE OR SET NO.	REQD PER MODULE OF END ITEM
PART NO. LDW280-8830-[illegible]			

MODEL OF END ITEM	NEXT ASSY	MODULE OR SET NO.	REQD PER MODULE OF END ITEM
PART NO. LDW280-8830-[illegible]			

SHEET STATUS FOR DESIGNATION BY SHEET

LAST DASH NO. USED

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

CONTRACT NO. [illegible]

DRAWN BY [illegible]

LAYOUT BY [illegible]

CHECKED BY [illegible]

END ITEM

DOCUMENTATION TYPE

GRUMMAN AIRCRAFT ENGRG CORP
BETHPAGE, L.I. NEW YORK

SIZE | CODE IDENT NO. 26512 | LDW280-8830

SCALE NONE | SHEET [illegible] OF [illegible]

01

NAS 9-1100

QTY PER ASSEMBLY	PART NO.	SZ	CODE IDENT	NOMENCLATURE OR DESCRIPTION	MATERIAL	GOVT SPEC	COML SPEC	STOCK SIZE	PROCESS SYM	FINISH NO	ZONE
	LDW280-18530-6	E		PLATE	TITANIUM SH	MIL-T-9046 TYPE III	6AL-4V	.063 x 7 7/8 x 5 1/2	CM	NONE	
	-5	E		PLATE	TITANIUM SH	COMP C COND ST	↑	.065 x 7 7/8 x 5 1/2	CM	NONE	
	-3	E		PLATE	TITANIUM SH	MIL-T-9046 TYPE III	↓	.080 x 4 1/4 x 7 7/8	CM	NONE	
	LDW280-18530-1	E		PLATE	TITANIUM SH	COMP C COND ST	6AL-4V	.065 x 4 1/4 x 6 3/8	CM	NONE	

SYM OR NO	PROCESS SYM OR FINISH NO	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO	PROCESS SYM OR FINISH NO	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO	PROCESS SYM OR FINISH NO	GRUMMAN SPEC OR MILITARY SPEC
						CM	CHEMICAL MILLING	SP 14-26100

CERTIFICATION AND TRACEABILITY IN ACCORDANCE WITH NONE

GRUMMAN AIRCRAFT ENGRG CORP., BETHPAGE, L. I., NEW YORK

SIZE	CODE IDENT NO	
B	26512	LDW280-18530

SCALE NONE

SHT [illegible]

01

NAS 9-1100

LDW280-18533

LEM

[illegible]	LDW280-22652	LTA-8	2
MODEL OF END ITEM	NEXT ASSY	MODULE OR SER NO SPEC SCH NO	REQD PER MODULE OR END ITEM
PART NO LDW280-18533-9			

LEM	LDW280-22652	LTA-8	1
MODEL OF END ITEM	NEXT ASSY	MODULE OR SER NO SPEC SCH NO	REQD PER MODULE OR END ITEM
PART NO LDW280-18533-5			

LEM	LDW280-22657	LTA-8	1 EA
MODEL OF END ITEM	NEXT ASSY	MODULE OR SER NO SPEC SCH NO	REQD PER MODULE OR END ITEM
PART NO LDW280-18533-[illegible]			

WORK PKG FUNCTION NO. [illegible]

SEE REV STATUS FOR DESCRIPTION OF REV SEE SHEET [illegible]

LAST SECT [illegible] USED

LAST DASH NO USED -9

GRUMMAN REL RPT

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCE UNLESS SPECIFIED
FRACTIONS - DECIMALS - ANGLES
± 1/32 ± .020 ± 1/2°

DWG DWG AUTH

DETAIL SPEC REQUIREMENTS

CLASS I ENGRG CHANGE /

CLASS II ENGRG CHANGE

LDC 11-5 [illegible]

CONTRACT NO NAS9-1100

DRAWN BY [illegible]

LAYOUT BY J. ANDERSON

CHECKED BY [illegible]

GP LEADER [illegible]

STRUCTURES [illegible]

WEIGHTS

PROJ ENGR [illegible]

USE ITEM

DOCUMENTATION TYPE II

GRUMMAN AIRCRAFT ENGRG CORP
BETHPAGE L.I. NEW YORK

ANGLE
DESCENT STAGE-BATTERY INSTL-LOWER DECK ATTACHMENT-LH FWD BEAM PNL.

SIZE	CODE IDENT NO	
B	26512	LDW280-18533
SCALE NONE		SHEET [illegible] OF 3

C.D.R. 4-22-68

01

NAS 9-1100

QTY REQD ASSEMBLY	PART NO.	ST	CODE IDENT	NOMENCLATURE OR DESCRIPTION	MATERIAL	MAT'L SPEC	COML SPEC	STOCK SIZE	PROCESS SYM	FINISH NO.	ZONE
	LDW280-18533-9	E		ANGLE	AL ALLOY SH	QQ-A-250/12 7075		.063 X 1 X 5	T6	S5	
	LDW280-18533-7			SUPPORT	AL ALLOY SH	QQ-A-250/12 7075		.063 X 5 X 6	T6	S5	
	LDW280-18533-5			ANGLE	AL ALLOY SH	QQ-A-250/12 7075		.063 X 2 X 5	T6	S5	
	LDW280-18533-3			ANGLE	AL ALLOY SH	QQ-A-250/12 7075		.063 X 3 X 6	T6	S5	
	LDW280-18533-1	E		ANGLE	AL ALLOY SH	QQ-A-250/12 7075		.063 X 3 X 6	T6	S5	

SYM	PROCESS SYM OR FINISH NO.	GRUMMAN SPEC OR MIL/FED SPEC
S5	ANODIZE	SP-A-9030
T6	AL HEAT TREAT	MIL-H-6088

IDENTIFICATION AND TRACEABILITY IN ACCORDANCE WITH NONE

GRUMMAN AIRCRAFT ENGRG CORP BETHPAGE . . NEW YORK

SIZE E CODE IDENT NO. 26512 LDW280-18533

SCALE NONE SHEET 2 OF

0 1

NAS 9-1100

LDW280-18549

MODEL OF END ITEM	NEXT ASSY	MODULE OF EFF NO	REQD PER MODULE OF END ITEM
LM	LDW280-54557	LM-5[illegible]	
		LM-[illegible]	
		LM-[illegible]	
		LM-[illegible]	
		LM-[illegible]	
		LM-[illegible]	
		LM-[illegible]	
		LM-[illegible]	
		LM-[illegible]	
		LM-[illegible]	
		LM-[illegible]	
	LDW280-54557	LM-2[illegible]	
LM	LDW280-[illegible]	LM-[illegible]	

PART NO LDW280-18549-

WORK PKG FUNCTION NO

CONTRACT NO NAS 9-1100

DOCUMENTATION TYPE I

GRUMMAN AIRCRAFT ENGRG CORP
BETHPAGE L.I. NEW YORK

SUPPORT
DESCENT STAGE [illegible]
DECK [illegible] DISTRIB SYSTEM

SIZE B CODE IDENT NO 26512 LDW280-18549

SCALE NONE SHEET [illegible]

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

01

NAS 9-1100

		LDW280-16549-1	E	SUPPORT	AL ALLOY PL	[illegible]	[illegible]	[illegible]	[illegible]	55
[illegible] ASSEMBLY	CODE IDENT	PART NO.	QTY	NOMENCLATURE OR DESCRIPTION	MATERIAL	[illegible] SPEC	[illegible] SPEC	STOCK SIZE	PROCESS SYM / FINISH NO.	ZONE

SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC
						55	ANODIZE	LSP-[illegible]

IDENTIFICATION AND TRACEABILITY IN ACCORDANCE WITH NONE

GRUMMAN AIRCRAFT ENGRG CORP BETHPAGE L.I. NEW YORK

SIZE	CODE IDENT NO.	
B	26512	LDW280-16549

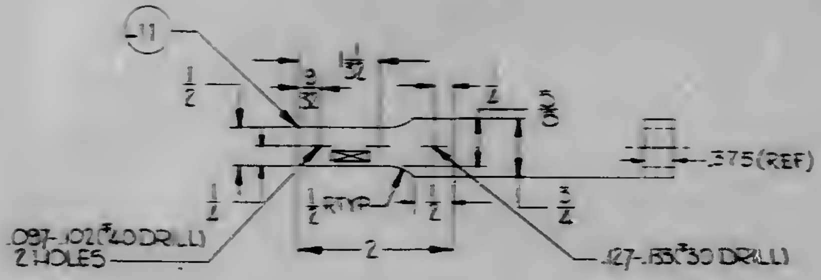
SCALE NONE SHEET [illegible]

01

[illegible] 9-1130

NOTES:
1. NO TOOLING HOLES PERMITTED IN PARTS

STAMP


-11
1/2
3/32
1 1/32
2
5/8
.375 (REF)
1/2
1/2 R TYP
1/2
3/4
.097-.102 (#40 DRILL)
2 HOLES
2
.127-.133 (#30 DRILL)

GRUMMAN AIRCRAFT ENG'G CORP., BETHPAGE, L. I., NEW YORK

B	26512	LDW280-18549
FULL		3.00

01 [redacted]-1100

LDW280-18557

MODEL OR END ITEM	NEXT ASSY	MODULE OR SER NO.	REQD PER MODULE OR END ITEM
LM	LDW280-54632	LM-15 (45)	2
		LM-14 (44)	2
		LM-13 (43)	2
		LM-12 (42)	2
		LM-11 (41)	2
		LM-10 (40)	2
		LM-9 (39)	2
		LM-8 (38)	2
		LM-7 (37)	2
		LM-6 (36)	2
		LM-5 (35)	2
LM	LDW280-54632	LM-4 (34)	2
PART NO. LDW280-18557-15		GAEC SCH NO.	

MODEL OR END ITEM	NEXT ASSY	MODULE OR SER NO.	REQD PER MODULE OR END ITEM
LM	LDW280-54632	LM-15 (45)	1
		LM-14 (44)	1
		LM-13 (43)	1
		LM-12 (42)	1
		LM-11 (41)	1
		LM-10 (40)	1
		LM-9 (39)	1
		LM-8 (38)	1
		LM-7 (37)	1
		LM-6 (36)	1
		LM-5 (35)	1
LM	LDW280-54632	LM-4 (34)	1
PART NO. LDW280-18557-11-13-17 -19-21&-23		GAEC SCH NO.	

MODEL OR END ITEM	NEXT ASSY	MODULE OR SER NO.	REQD PER MODULE OR END ITEM
PART NO.		GAEC SCH NO	

WORK PKG FUNCTION NO 110

SH REV STATUS: FOR DESCRIPTION OF REV SEE SUBQ SH

SHEET	1.00		2.00	3.00					
REV									
SHEET									
REV									
SHEET									
REV									

LAST SECT LTR USED		GRUMMAN REL INFO		
		PRIM NO.	JK100	
LAST DASH NO. USED	-23	207	MP-16	3/22/68

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.
TOLERANCE UNLESS SPECIFIED
FRACTIONS - DECIMALS - ANGLES
±1/32 ±.020 ±1/2°

D	ORIG DWG AUTH
DETAIL SPEC REQUIREMENT	
CLASS II ENGRG CHANGE	
CLASS I ENGRG CHANGE	V
LCD2011(668)	

CONTRACT NO. NAS 9-1100 | LINE ITEM | DOCUMENTATION TYPE II

DRAWN BY	A.LITVINOFF 3-8-68	RELIABILITY	
LAYOUT BY	G. BARNES 3-6-68		
CHECKED BY	3-11-68		
GR LEADER	3/13/68		
VER DES INT	3/14/68		
STRUCTURES	3/21/68	PROJ ENGR	3/21/68
STRUCTURES	EB 3/14/68	REL GROUP	Marsh 3-26-68
WEIGHTS			

GRUMMAN AIRCRAFT ENGRG CORP
BETHPAGE, L. I., NEW YORK

CHANNEL DESCENT STAGE RH
FWD BEAM PANEL PROPELLANT
QUANTITY GUAGING SYSTEM SUPPORT

SIZE	CODE IDENT NO.	
B	26512	LDW280-18557
SCALE	NONE	SHEET 1.00 OF 3.00

ENG 77 1 12-68

CDR 3/22

0 1

NAS 9-1100

QTY PER ASSEMBLY	PART NO.	QTY	CODE IDENT	NOMENCLATURE OR DESCRIPTION	MATERIAL	MAT SPEC	COML SPEC	STOCK SIZE	PROCESS SYM	PROC NO	ZONE
	LDW280-8557-3	[illegible]		BLOCK	AL ALLOY	QQ-A-250/4	[illegible]	.125 × [illegible]	NONE	NONE	
	-1	[illegible]		BLOCK	AL ALLOY	QQ-A-250/4	[illegible]	.125 × [illegible]	NONE	NONE	
	-[illegible]			TEE	AL ALLOY EXTR	QQ-A-200/[illegible]	[illegible]	DIE NO. [illegible]	NONE	NONE	
	-[illegible]			CHANNEL	AL ALLOY	QQ-A-250/[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
	-5			CHANNEL	AL ALLOY	QQ-A-250/[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
	-[illegible]	[illegible]		TEE	AL ALLOY EXTRUSION	QQ-A-200/[illegible]	[illegible]	DIE NO. [illegible]	NONE	NONE	
	LDW280-8557-[illegible]	[illegible]		CHANNEL	AL ALLOY	QQ-A-250/[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

SYM OR NO.	PROCESS SYM OR PROC NO.	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO.	PROCESS SYM OR PROC NO.	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO.	PROCESS SYM OR PROC NO.	GRUMMAN SPEC OR MILITARY SPEC
						[illegible]	AL. ALLOY TREAT	MIL-H-6088
						[illegible]	ANODIZE	[illegible]

CERT. IDENTIFICATION AND TRACEABILITY IN ACCORDANCE WITH: NONE

GRUMMAN AIRCRAFT ENGINE CORP. BETHPAGE, L.I., NEW YORK

SIZE: B
CODE IDENT NO: 26512
LDW280-8557

SCALE: NONE
SHEET [illegible]

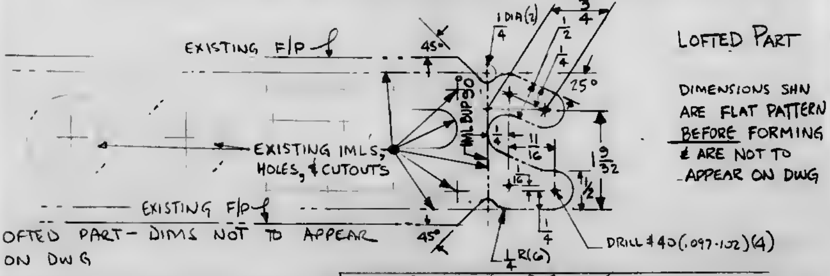
ENG 32.1 REV 3-65

GRUMMAN AIRCRAFT ENGINEERING CORP.
CODE IDENT NO. 26512
ENGINEERING ORDER

DWG. NO. LDW280-18560		EO NO. A2
CONTROL INFO NO. LDW280 B3842		

SCRAP -19

ADD -21 IDENT. TO -19 EXCEPT AS NOTED. -21 .032 THICK, MATL 2024-T3 AL ALY BARE QQ-A-250/4, BR 3/32, N/A LDW280-54679, 1 REQD/MOD


EXISTING F/P ℄
45°
1 DIA(2)
1/4
3/4
1/2
1/4
25°
90° MIL BUP
EXISTING IMLS, HOLES, & CUTOUTS
1/4
11/16
1/16
1 9/32
1/2
1/4
EXISTING F/P ℄
45°
1/4 R(6)
DRILL #40(.097-.102)(4)

LOFTED PART

DIMENSIONS SHN ARE FLAT PATTERN BEFORE FORMING & ARE NOT TO APPEAR ON DWG

LOFTED PART - DIMS NOT TO APPEAR ON DWG

LCD1453 CCA 586 PKG 13 ✓
LCD 3075 CCA 586 PKG 2U

DETAIL SPEC REQ		CL Ⅱ ENGRG CHG		CL Ⅰ ENGRG CHG	✓

REASON FOR EO
TO STIFFEN SEQ BAY UPPER DECK.

DESCRIPTION OF EO
ADDED -21
SCRAPPED -19

(5)
GAEC EO RELEASE C
6/12/68

MODEL	PROCURING ACTIVITY NO.	GAEC UNIT NO.	SUB CONTR UNIT NO.	REVISE DWG	RECORD EO	REWORK	SCRAP
		EFFECTIVITY		DRAWING CHANGE REQD		DISPOSITION OF PARTS	
LM		LM-4(34) THRU		✓			-19
		LM-15(45), DVT(70)					
LM		TM-5/6(65)					

APPROVED BY				GROUP LEADER	STRESS GROUP	LIAISON ENGRG	PROJ ENGRG	
DATE				6/10	6/11/68			6-12-68
	UD1	SUPPORT	RELIAB GROUP					

PRIORITY	DRAWING TITLE	DRAWING NO.	EO NO
C	BRKT ~ DS ~ QUAD Ⅱ ~ UPR DECK ~ RH IDLER PULLEY SPT	LDW280-18560	A2

6-15-68
ISSUED BY BELEV \ LANG 6-8-68 SECTION UD1 GROUP NO. 335 PL 25

01

NAS 9-1100

QTY PER ASSEMBLY	CODE IDENT	PART NO.	MAT	NOMENCLATURE OR DESCRIPTION	MATERIAL	GOVT SPEC	COML SPEC	STOCK SIZE	PROCESS SYM	FINISH NO.	ZONE
		LDW280-18586-1		CLIP	AL ALLOY SH	QQ-A-250/12	7075	.071 x 2 x 4	TG	BB	

SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC
						TG	AL HEAT TREAT	MIL-H-6088
						BB	ANODIZE	LSP14-9030

I & T: IDENTIFICATION AND TRACEABILITY IN ACCORDANCE WITH: NONE

GRUMMAN AIRCRAFT ENGRG CORP., BETHPAGE, L. I., NEW YORK

SIZE	CODE IDENT NO.	
B	26512	LDW280-18586

SCALE NONE

SHEET 2.00

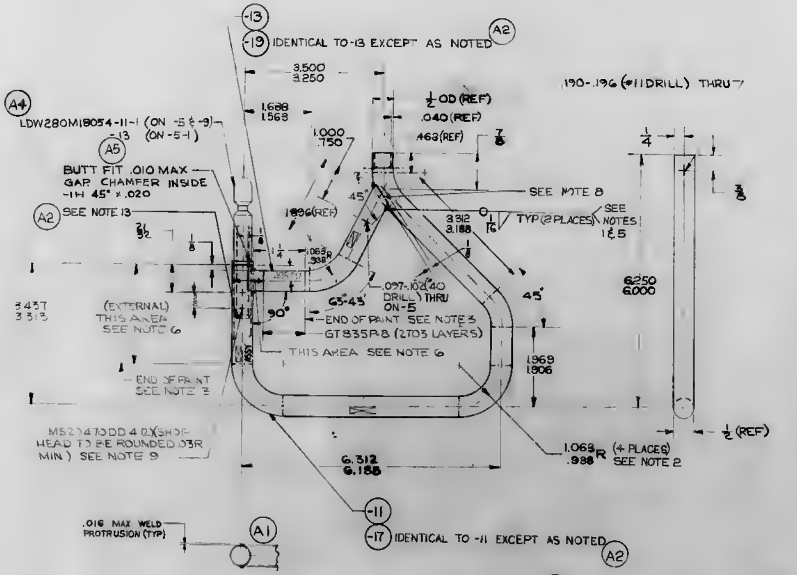
NS 72 746

01

NAS 9-1100

SUPPLEMENTARY DATA
UNLESS OTHERWISE SPECIFIED
NOTES CHECKED ✓ APPLY TO THIS DWG

MARK PART NUMBER IN ACCORDANCE WITH MIL STD 130	
RUBBER STAMP PART NUMBER AND ALL OTHER MARKINGS IN REGION MARKED ~~USE BORN SIDES IF NECESSARY~~	✓
LENGTHS OF AN NAS & MS AL ALY RIVETS SHORTER THAN 1 INCH ARE NOT SPECIFIED	
INSTALL RIVETS IN ACCORDANCE WITH	


-13
-19 IDENTICAL TO -13 EXCEPT AS NOTED
A2
3.500
3.250
1.688
1.563
1.000
.750
$\frac{1}{2}$ OD (REF)
.040 (REF)
.463 (REF)
$\frac{7}{8}$
.190-.196 (#11 DRILL) THRU
$\frac{1}{4}$
$\frac{3}{8}$
A4
LDW280M18054-11-1 (ON -5 & -9)
-13 (ON -5-1)
A5
BUTT FIT .010 MAX GAP. CHAMFER INSIDE -1-1 45° × .020
A2
SEE NOTE 13
$\frac{21}{32}$
$\frac{1}{8}$
1.896 (REF)
45°
SEE NOTE 8
3.312
3.188
$\frac{1}{16}$
TYP (2 PLACES)
SEE NOTES 1 & 5
$1\frac{1}{4}$
1.063
.938 R
.097-.102 (#40 DRILL) THRU ON -5
63°-43'
90°
45°
6.250
6.000
3.437
3.313
(EXTERNAL) THIS AREA SEE NOTE 6
END OF PAINT SEE NOTE 3
GT835R-8 (2 TO 3 LAYERS)
THIS AREA SEE NOTE 6
1.969
1.906
END OF PAINT SEE NOTE 3
MS20470DD4 (2)(SHOP HEAD TO BE ROUNDED .03R MIN) SEE NOTE 9
6.312
6.188
1.063
.938 R (4 PLACES) SEE NOTE 2
$\frac{1}{2}$ (REF)
-11
-17 IDENTICAL TO -11 EXCEPT AS NOTED
A2
.016 MAX WELD PROTRUSION (TYP)
A1

LDW280-18630-5 ASSY. Ⓐ①

-7 ASSY. (WELDED)

-9 ASSY, IDENTICAL TO -5 EXCEPT AS NOTED Ⓐ②

-15 ASSY, (WELDED) IDENTICAL TO -7 EXCEPT AS NOTED

-51 ASSY, IDENTICAL TO -5 EXCEPT AS NOTED Ⓐ⑤

NOTES:

1. CREW HAZARD PARTS REQUIRE SPECIAL HANDLING TO INSURE REMOVAL OF ALL SHARP EDGES & BURRS.
2. FLATNESS IN AREA OF TUBE BEND SHALL NOT EXCEED 15 PERCENT (THIS IS NOT A FLUID SYSTEM ITEM).
3. FINISH 401-F1 YELLOW (LSM-14-4405) PER LSP-14-4503, IN AREA INDICATED.
4. NO TOOLING HOLES PERMITTED IN PARTS.
5. WELD -11 & -13, -17 & -19, -23 & -25 PER LSP-14-6201, STANDARD NO 3. DYE PENETRANT INSPECT.
6. APPLY EPOXY POLYAMIDE PRIMER MIL-P-23377 PER LSP14 4305.
7. ~~ANNEALED CONDITION PERMISSIBLE IN AREA OF WELD~~
8. CUT -13, 19 & -25 TO MATCH O.D. OF -11, 17 & -23. (2 PLCS EA.).
9. FILL VOID BETWEEN LDW280M18054-11-1, -13 & -13 ID OF -11, -17 & -25 TUBE WITH EPON 934 & IMMEDIATELY INSTALL FASTENERS. FILLET BOTH HEADS TO TUBE WITH EPON 934 & THEN CURE ASSY. (APPLY EPON 934 PER LSP14 22500 CURE RANGE (1) ONE.) ROOM TEMPERATURE CURE OPTIONAL.
10. -7, 15, 21 SHALL BE FLAT WITHIN .125
11. ON -15, DRILL TO FIT LDW280M18054-11-1 2 INCH MAX DEPTH. MIN REMAINING WALL THICKNESS TO BE .040 IN THIS AREA.

GRUMMAN AIRCRAFT ENGINEERING CORPORATION
BETHPAGE, NEW YORK 11714

SIZE	CODE IDENT NO.		
D	26512	LDW280-18630	A
SCALE FULL		SHEET 5.0C	

NAS 9-1100

LDW280-18698

MODEL DR END ITEM	NEXT ASSY	MODULE OR SER NO.	REQD PER MODULE OR END ITEM
PART NO.		GAEC SCH NO.	

MODEL DR END ITEM	NEXT ASSY	MODULE DR SER NO.	REQD PER MODULE DR END ITEM
PART NO.		GAEC SCH NO.	

MODEL DR END ITEM	NEXT ASSY	MODULE OR SER NO.	REQD PER MODULE DR END ITEM
LM	LDW280-60522	LTA-11(23)	1EA
		LTA-3DR/1(46)	1EA
		LM-14(44)	1EA
		LM-13(43)	1EA
		LM-12(42)	1EA
		LM-11(41)	1EA
LM	LDW280-60522	LM-10(40)	1EA
PART NO. LDW280-18698-11, -12, -13, -15, -17, -19 & -20		GAEC SCH NO.	

WORK PKG FUNCTION NO. 110 (5)

SH REV STATUS: FOR DESCRIPTION OF REV SEE SUBQ SH

SHEET	1.00		2.00	3.00					
REV									
SHEET									
REV									
SHEET									
REV									

LAST SECT LTR USED	
LAST DASH NO. USED	-20

GRUMMAN REF INFO

PRIM NO.	SK(001)	
207	ME-16 8/2/9	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.
TOLERANCE UNLESS SPECIFIED FRACTIONS - DECIMALS – ANGLES
±1/32 ±.020 ±1/2°

ORIG DWG AUTH

DETAIL SPEC REQUIREMENT	
CLASS II ENGRG CHANGE	
CLASS I ENGRG CHANGE	✓

LCD3890, CCA2205
ECP A120

CONTRACT NO. NAS9-1100 | LINE ITEM | DOCUMENTATION TYPE II

DRAWN BY	HERB. SCHWETER 6/23/69	~~RELIABILITY~~	
LAYOUT BY	J. LANG 7/12/69		
CHECKED BY	JD COBB 7-18-69		
GR. LEADER	[illegible] 7-29-69		
VEH DES INT	[illegible] 7/25/69		
STRUCTURES	NM 7/25/69	PROJ ENGR	[illegible]
STRUCTURES		REL GROUP	[illegible]
~~WEIGHTS~~			

GRUMMAN AIRCRAFT ENGRG CORP
BETHPAGE, L. I., NEW YORK

ZEE
DESCENT STAGE ~+Z UPPER DECK

SIZE	CODE IDENT NO.	
B	26512	LDW280-18698
SCALE	NONE	SHEET 1-00 OF 3

ENG 77.1 12-65

01

NAS 9-1100

QTY PER ASSEMBLY	CODE IDENT	PART NO.	I&T	NOMENCLATURE OR DESCRIPTION	MATERIAL	GOVT SPEC	COML SPEC	STOCK SIZE	PROCESS SYM	FINISH NO.	ZONE
		LDW280-18698-20	E	ZEE	AL ALY SH	QQ-A-250/12	7075W	.063 × 5 × 15	T6	88	
		-19						.063 × 5 × 15			
		-17						.063 × 5 × 15			
		-15						.063 × 5 × 16			
		-13						.063 × 4 × 25			
		-12						.063 × 5 × 40			
		LDW280-18698-11	E	ZEE	AL ALY SH	QQ-A-250/12	7075W	.063 × 5 × 40	T6	88	

SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC	SYM OR NO.	PROCESS OR FINISH	GRUMMAN SPEC OR MILITARY SPEC
						T6	AL HEAT TREAT	MIL-H-6088
						88	ANODIZE	LSP14-9030

I&T: IDENTIFICATION AND TRACEABILITY IN ACCORDANCE WITH : NONE

GRUMMAN AIRCRAFT ENGRG CORP, BETHPAGE, L. I., NEW YORK

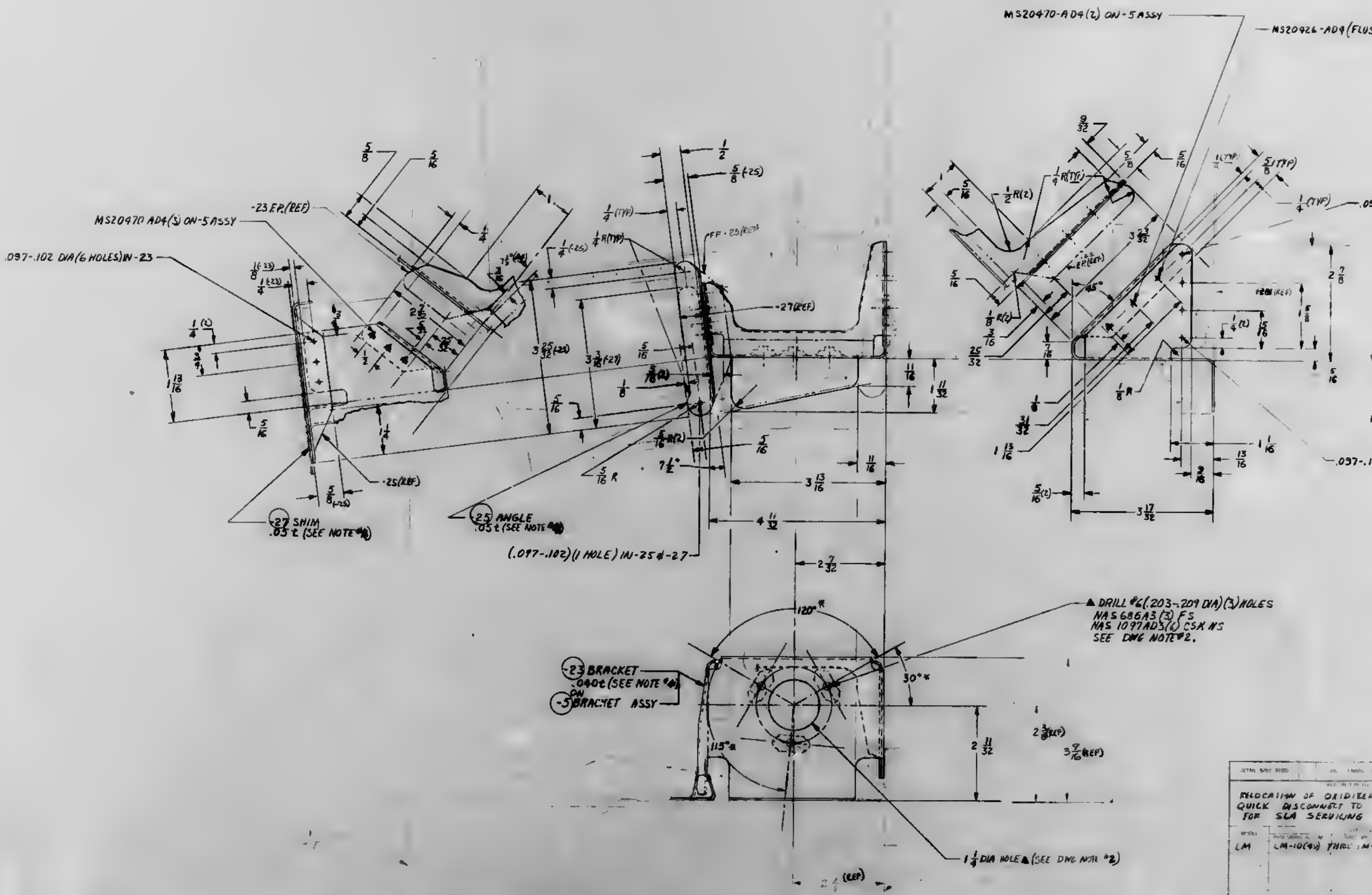
SIZE	CODE IDENT NO.	
B	26512	LDW280-18698

SCALE NONE SHEET 2.00

ENG 77.2 7-65

01

NAS 9-1100


MS20470-AD4(2) ON-5ASSY
MS20926-AD4(FLUSH N.S.) ON-5ASSY
.097-.102 DIA(1 HOLE)IN-5ASSY
.097-.102 DIA (7 HOLES) IN-23
MS20470 AD4(3) ON-5ASSY
-23 E.P.(REF)
.097-.102 DIA(6 HOLES)IN-23
-25(REF)
-27(REF)
E.P.·25(REF)
-27 SHIM
.05 t (SEE NOTE #4)
-25 ANGLE
.05 t (SEE NOTE #4)
(.097-.102)(1 HOLE) IN-25 & -27
▲ DRILL #6(.203-.209 DIA)(3)HOLES
NAS686A3(3) FS
NAS1097AD3(6) CSK NS
SEE DWG NOTE #2.
-23 BRACKET
.040t (SEE NOTE #4)
ON
-5 BRACKET ASSY
1 1/4 DIA HOLE ▲ (SEE DWG NOTE #2)
120°*
30°*
115°*
45°
7 1/2°
2 11/32
2 3/8(REF)
3 9/16(REF)
2 1/4(REF)
2 7/32
4 11/32
3 13/16
3 17/32
3 23/32
3 25/32(-23)
3 3/16(-27)
2 7/8
1 5/8
1 13/16
1 11/32
1 1/16
1 1/4
25/32
(REF)

E.O. NOTES: DO NOT INCORPO

1) LOFTED DWG ~ DIM
REFERENCE ONLY,
4) ALL PARTS TO BE
AL ALLOY SHT.
(ANODIZE-LSPM-7030), 5/32 BEND RADIUS
PER VEHICLE EFF

REMOVE - 3 ASSY, -11, -15 & -17
ADD (#5 SHIM): -5 ASSY, -23 -2

THIS IS AN

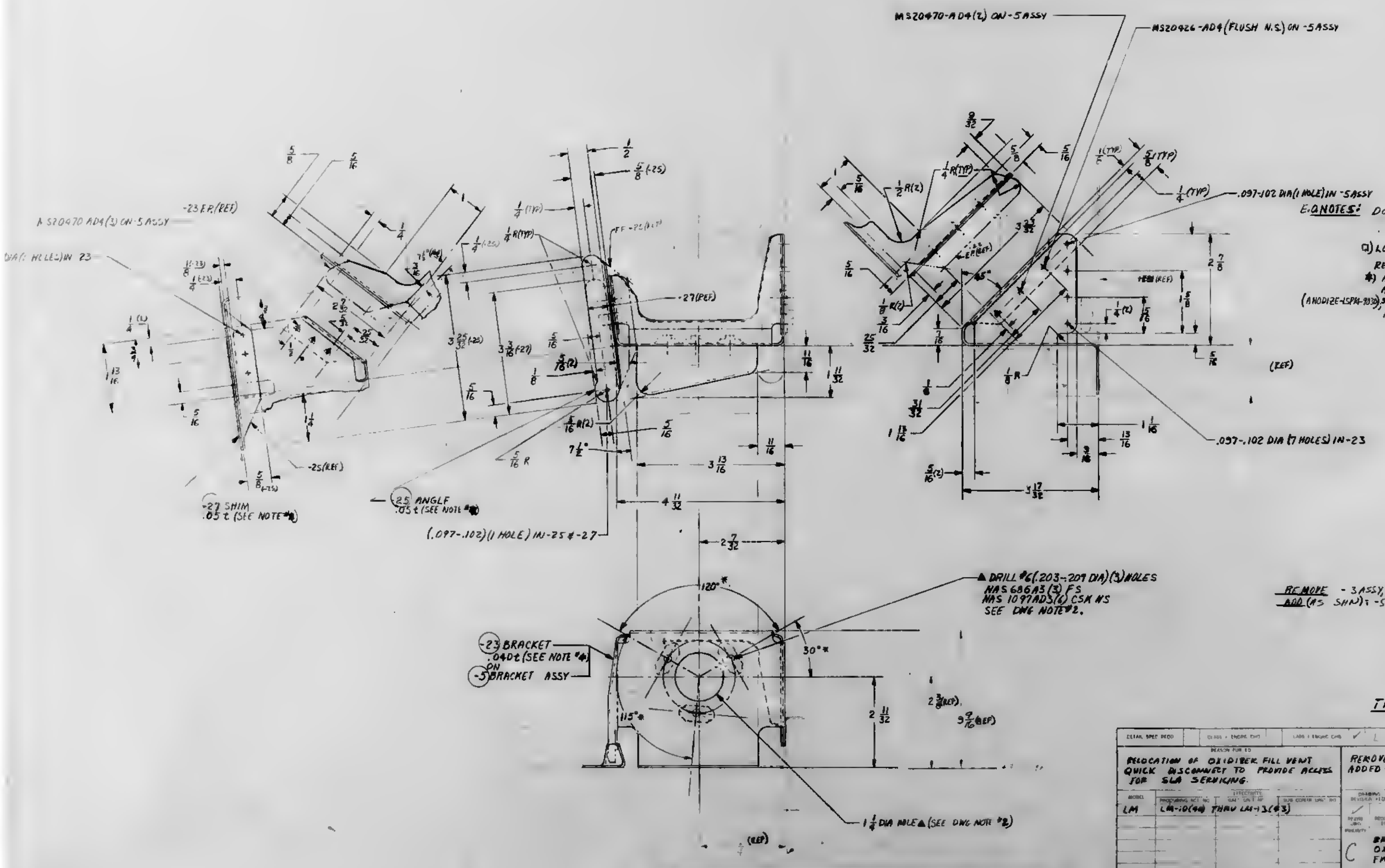
RELOCATION OF OXIDIZER FILL VENT
QUICK DISCONNECT TO PROVIDE ACCESS
FOR SLA SERVICING

LM
LM-10(#4) THRU LM-13(#3)

REMOVED - 5 & 8
ADDED -23 -25 -27

C
BRACKET ASSY ~ DES
OXIDIZER QUICK DIS
END BULKHEAD

01/02 NAS 9-1100


MS20470-AD4(2) ON -5ASSY
MS20426-AD4(FLUSH N.S) ON -5ASSY
MS20470 AD4(3) ON -5 ASSY
-23 FR.(REF)
-27(REF)
-25(REF)
-27 SHIM
.05 t (SEE NOTE #)
-25 ANGLE
.05 t (SEE NOTE #)
(.097-.102)(1 HOLE) IN -25 & -27
.097-.102 DIA(1 HOLE) IN -5ASSY
.097-.102 DIA (7 HOLES) IN -23
(REF)
▲ DRILL #6(.203-.209 DIA)(3) HOLES
NAS 686A3(3) FS
NAS 1097AD5(6) CSK NS
SEE DWG NOTE #2.
-23 BRACKET
.040 t (SEE NOTE #)
ON
-5 BRACKET ASSY
120°*
30°*
115°*
1 1/4 DIA HOLE ▲ (SEE DWG NOTE #2)

E.O NOTES: DO NOT INCORPORATE ON DWG.

1) LOFTED DWG ~ DIMENSIONS SHOWN FOR MANUFACTURING REFERENCE ONLY, EXCEPT AS NOTED BY *.

#) ALL PARTS TO BE MADE FROM 2024-T3/T42 BARE AL ALLOY SHT, QQ-A-250/4, PROCESS: NONE, FINISH #38 (ANODIZE-LSP14-9030), 5/32 BEND RADIUS, I&T=E ~ N/A LDW280-54526 (1EA) REQD PER VEHICLE, EFF LM-10(40) THRU LM-13(43) FOR -5, -25 & -27.

REMOVE - 3ASSY, -11, -15 & -19
ADD (AS SHN): -5 ASSY, -23, -25, -27

THIS IS AN ORIGINAL E.O.

DETAIL SPEC REQD	CLASS I ENGRG CHG	CLASS II ENGRG CHG ✓	L D5651	#50 PG#1	2C0915 E
REASON FOR EO: RELOCATION OF OXIDIZER FILL VENT QUICK DISCONNECT TO PROVIDE ACCESS FOR SLA SERVICING.		DESCRIPTION: REMOVED -11, -15, -19 & -3ASSY. ADDED -23, -25, -27 & -5ASSY			
MODEL: LM	PROCURING ACT NO / EFFECTIVITY: LM-10(40) THRU LM-13(43)			9/2/70	9/2/70
		C	BRACKET ASSY ~ DESCENT STAGE ~ OXIDIZER QUICK DISCONNECT ~ FWD BULKHEAD	-18778	H5
ISSUED BY: J ROGERS/G HAUSMANN (X87331)	SECTION: VEH DES AT	25	CODE IDENT NO 26512	GRUMMAN AIRCRAFT ENGRG CORP	

CDR 9/2/70

02/02 NAS 9-1100